



THE CITY OF SAN DIEGO
REPORT TO THE CITY COUNCIL

DATE ISSUED: January 3, 2007 REPORT NO: 07-011

ATTENTION: Council President and Members of the City Council,
City Council Meeting of January 8, 2007

SUBJECT: Proposition 218 Noticing of Proposed Water Rate Adjustments

REFERENCE:

REQUESTED ACTION:

- Council authorization to notice, pursuant to Proposition 218 to include the following:
 - Proposed water rate adjustments, increasing water system revenues by 6.5% in Fiscal Years 2008, 2009, 2010 and 2011.
 - Proposed water base fee and commodity charge adjustments, consistent with Water Cost of Service Rate Study (COSS) recommendations to reflect proportionate share revenue between user classifications.
 - Increase number of user classifications based on recommendation of COSS.
- Set the public hearing date to consider proposed water rate adjustments at City of San Diego council meeting of February 26, 2007; and
- Receive the Water Cost of Service Rate Study as the basis for establishing the rate structure.

STAFF RECOMMENDATION:

- Authorize Proposition 218 noticing to include the following:
 - Proposed water rate adjustments, increasing water system revenues by 6.5% in Fiscal Years 2008, 2009, 2010 and 2011.
 - Proposed water base fee and commodity charge adjustments, consistent with Water Cost of Service Rate Study (COSS) recommendations to reflect proportionate share revenue between user classifications.
 - Increase number of user classifications based on recommendation of COSS.
- Set the public hearing date to consider proposed water rate adjustments at City of San Diego council meeting of February 26, 2007; and
- Receive the Water Cost of Service Rate Study.

RAMIFICATIONS OF NO RATE INCREASES:

The proposed rate increases are on a critical timeline and are needed to meet the water system's Compliance Order, and meet mandates under the Federal Safe Drinking Water Act. The Compliance Order requires the City to rehabilitate or replace deteriorating pipelines, and to

replace aging pipes, pumps and other infrastructure to reduce the number of pipeline breaks and emergency repairs. Violation of the Compliance Order may be subject to additional judicial action, including civil penalties specified in Health and Safety Code, Section 116725. Section 116725 penalties for violating a schedule of compliance for a primary drinking water standard can go as high as \$25,000 per day; for violating other standards, the penalties can go as high as \$5,000 per day.

There are a number of enforcement tools that can be used by the State should the City fail to meet its obligations under the compliance order prescribed by law. They include the following:

1. Public Notification
2. Citations
3. Citation with fines
4. Public hearings
5. Mandatory water conservation
6. Service connection moratorium
7. Litigation

In order to achieve our milestones and get back into the public bond market by August 30, 2007, the following timeline is imperative:

- January 8, 2007 - City Council hearing to set the public hearing as required by Proposition 218
- January 11, 2007 - Proposition 218 notice must be mailed to meet the 45 day noticing requirement
- January 16, 2007 - City Council hearing to approve private placement interim financing of \$57 million and approve FY07 Capital Improvement Program
- January 22, 2007 - Interim financing complete
- February 26, 2007 - City Council public hearing to consider proposed rate increases (45 days after mailing the Proposition 218 notices) and introduction of ordinance authorizing a bond issuance and financing documents
- Early April 2007 - Request for Proposals (RFP) issued for Bond Counsels and Bond Underwriters
- Late April 2007 - RFP's received and selections made. Finance document preparation begins.
- Late June 2007 - Introduction of ordinance authorizing the financing and legal documents
- July 1, 2007 - First 6.5% rate increase executed to support the bond issuance, capital program and operations and maintenance.
- Mid July 2007 - Council authorization of financing documents
- August 2007 - Referendum waiting period. \$57 million private placement financing proceeds exhausted.
- Late August 2007 - Bond closing and funds available to Water System.

This timeline is extremely aggressive and each milestone is critical to ensure the Water Department stays in compliance with DHS requirements. The timing of the public financing is designed so that as soon as the private placement funds are exhausted public funds will be in place to continue work on existing capital improvement projects. It should be noted that a public

offering after June 30, 2007, as anticipated in this proposal, will require the completion of the audit for the City of San Diego Fiscal Year 2006 Comprehensive Annual Financial Report (CAFR). If the audit is not issued prior to August 2007, the Water Department may find it necessary to come back to council for a second interim private placement financing to meet the ongoing needs of the capital program.

Raftelis Financial Consultants, Inc. was retained to complete a Cost of Service Rate Study. The recommendations are consistent with and are reflected in the water rate case. The City Council's ability to deviate from these rates is limited: the rate adjustments proposed by this Report can only be changed if the alterations are consistent with the Cost of Service Rate Study. Changes that are inconsistent with the Study could violate the requirement of Proposition 218 that water fees not exceed the proportionate cost of providing the service to each parcel. Therefore, any proposed changes should be examined carefully.

SUMMARY:

Background

In response to state and federal mandates requiring the City to upgrade its water treatment facilities, replace cast iron water mains, and implement a wide variety of improvements throughout the water system, the Water Department has prepared a Capital Improvement Program (CIP) to address these issues as well as ensure sufficient capacity and water quality for the future. In order to support this CIP, additional funds will be required through a combination of bonds, grants, state revolving fund loans and cash. This investment in infrastructure will require a series of rate increases beginning July 1, 2007, which will be presented to the City Council. Pursuant to Proposition 218, and prior to Council's formal consideration of rate increases, the City must provide property-owners 45 days advance notice when any rate increases will be considered. This action authorizes this Notice to take place.

Proposition 218

On November 5, 1996, the voters of the State of California approved Proposition 218, the "Right to Vote on Taxes Act." Proposition 218, effective July 1, 1997, added Articles XIIC and XIID to the State Constitution, which contain a number of provisions affecting the ability of local governments to levy and collect both existing and future taxes, assessments, fees and charges. Article XIID, section 6(a)(1) imposes noticing procedures for imposing a new or increasing an existing property-related fee or charge. This initiative changed the way the public is notified of proposed fee increases. Specifically, it requires that notices be mailed to all property owners of record at least 45 days in advance of the date on which a proposed property related fee increase may be adopted.

It is the intent of the Water Department to mail notices (attached), on or before January 11, 2007 to property owners of record and City of San Diego water bill customers, advising them the City Council of San Diego will hold a public hearing on February 26, 2007 to consider adoption of proposed revisions to existing water base fees and commodity charges. If adopted, the revisions under this proposal will become effective beginning July 1, 2007, and ending with the final increase effective July 1, 2010.

History

The City has managed and operated the water system since 1901 after purchasing the privately owned San Diego Water and Telephone Company. Since then the system has been expanded to supply approximately 270,000 accounts at the start of FY 2007, delivering approximately 240,000 acre-feet of water per year.

The City's water system currently consists of nine raw water storage facilities, three water treatment plants, 30 treated water storage facilities and over 3,460 miles of water lines. One of the nine raw water storage facilities, Lake Hodges Reservoir, is not currently connected to a treatment plant but will be used as part of the Emergency Storage Project pursuant to an agreement between the City and San Diego County Water Authority (CWA). The City owns and operates three water treatment plants with a combined current capacity of 294 million gallons per day (MGD). The 30 treated water storage facilities ensure consistent delivery to the 90 different pressure zones with the aid of 49 water pump stations.

While the City has grown, local water sources have remained static. In general, between 6 percent and 10 percent of the City's water supply is derived from local water sources. The balance of the City's water supply is purchased from the CWA. These purchases from the CWA include treated water that is delivered to the City's water distribution system and raw water that is transported to the City's water treatment plants.

In 1994, the City of San Diego entered into a compliance agreement (attached) with the State of California Department of Health Services (DHS) with unanimous approval of City Council. This agreement required the City to correct operational deficiencies and begin badly needed capital improvements.

The City was notified in January of 1997 that it was not in compliance with this agreement. At that time, the DHS issued a Compliance Order. It also identified a list of projects the City must work in good faith to complete. That order also required the City to develop and submit a funding plan.

As a result, in 1997, the City Council approved the Water Strategic Plan, an associated eight-year capital improvements plan, the issuance of debt approved in 1998 for the capital program, and a series of three 6% increases to the water services charge revenues to support the first \$385 million of debt. These actions came after a year long planning effort by a citizen advisory group that recognized and documented the need for an intensive effort to upgrade the City's water infrastructure in response to a Compliance Order issued earlier that year by the DHS, new federal drinking water requirements, the need to expand facilities to meet the needs of a growing community, and the need to replace or rehabilitate aging and deteriorating facilities throughout the system.

The 1997 Strategic Plan for Water Supply called for the doubling of water savings, from 13,000 acre-feet per year (AFY) to 26,000 AFY by 2005. This was to be accomplished by continuing successful water conservation programs. The City achieved its 2005 goal, and estimated a total of 30,350 AFY savings by the end of Fiscal Year 2006. 30,350 AFY is equal to 27.1 million gallons per day (MGD) of water saved. When compared to 11.6 mgd savings in 1997, the

increase equates to 15.5 MGD. These efforts, along with proposed projects for cutting edge technologies such as brackish water desalination, are intended to provide the City with a reliable water supply that is less dependent on imports.

The three rate increases were applied to base fees only and took effect in August 1997, July 1998, and July 1999. The Department returned to the City Council in 2001 for additional rate increases in order to continue the capital program. As a precondition to approving further increases, Council requested the completion of a management review and a water cost of service study. The firm of Black & Veatch Corporation completed the Management Review Study in 2001 and it was presented to the Natural Resources and Culture Committee in January 2002.

On April 30, 2002, the City Council adopted Resolution 296437 approving the increase of water sales revenue by 6% per year each year beginning July 1, 2002, for a period of 5 years through July 1, 2006. This was to be accomplished by increasing the water base fee and commodity charges such that 50% of the increased revenue would be generated from each.

In October 2003, Black & Veatch Corporation completed a Water Cost of Service Study for the City. The study recommended adjusting the base charge to better reflect the actual fixed cost incurred by each class of user. It also recommended offsetting adjustments to the commodity fee to ensure full cost recovery.

This allowed the Water Department to issue another \$287 million in bonds in the fall of 2002 to continue the capital program. The funding from these bonds was fully expended in the spring of 2006. Since then, the Water Department has been using pay-as-you-go money to continue a scaled down capital program. As a result, the Water Department has had difficulties keeping up with the DHS Compliance Order and must ramp up to stay current with the order.

Current Needs

The City of San Diego water system is one of the most complex water systems in the nation, encompassing over 3,460 miles of pipelines, 49 pump stations and 30 treated water storage reservoirs. Such a sizeable system requires continuous upgrade and replacement of its aging components to meet current building standards, and updated Safe Drinking Water Standards.

The January 1997 Compliance Order was last amended in 2004, and included additional items that were not in the original Compliance Order. Furthermore, the Safe Drinking Water Act amendments include new drinking water standards that all municipalities need to comply with by 2011 which directly affect the City's water treatment plants.

The City of San Diego is mid-way through a multi-year capital improvements program (CIP) to meet the regulatory requirements and upgrade its water infrastructure. The Water Department has completed 22 of the 31 projects in the DHS Compliance Order, and has made significant progress towards meeting the 2011 requirements of the Safe Drinking Water Act. Unfortunately, the City of San Diego was prevented from borrowing capital funds through the normal financial markets. The Water Department's inability to access the capital markets has significantly limited the Water Department's FY 2006 and FY 2007 CIP.

In fiscal years 2008 through 2011, the Water Department plans to expend approximately \$585 million for capital improvement projects. These funds will be used to continue many projects that have been delayed, such as upgrading and expanding the Alvarado, Miramar, and Otay Water Treatment Plants, the replacement of the Otay 2nd Transmission Pipeline, and the replacement of approximately 75 miles of cast iron water mains.

CIP projects to be funded from the proposed rate increases are listed in the attached schedule. There are a number of assumptions associated with capital project costs, including inflation and construction bid estimates which may change over time. Changes to the CIP will be brought before the City Council for their review and approval.

Continued on next page

Rate Case

In order to continue the Water Department's capital program and stay current with the Department of Health Services (DHS) Compliance Order, staff will be requesting 6.5% water sales fees and charges increases over the next 4 fiscal years. This will allow the Water Department to cover debt service once it gets back into the bond market in 2007. The department plans to request approval to issue a private placement of \$57 million at a favorable interest rate and then get back into the public market with a larger offering during the summer of 2007.

The tables below identify projected revenue and expenditure estimates used for the Study.

SUMMARY OF WATER REVENUE

Line		Estimated		Projected		
No.	Description	2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$
	<u>Revenue from Rates</u>					
1	Revenue Under Existing Rates	278,601,800	280,955,700	282,626,200	284,666,200	287,281,900
2	Revenue from Rate Increases	-	18,262,100	37,935,500	59,196,200	82,296,500
3	Total Revenue from Rates	278,601,800	299,217,800	320,561,700	343,862,400	369,578,400
	<u>Other Operating Revenues</u>					
4	Reclaimed Revenue	4,012,000	7,013,382	7,832,539	8,304,302	9,472,200
5	Fire Service and Auto. Sprinkler Svc.	1,493,333	1,498,111	1,503,815	1,498,420	1,500,115
6	Backflow Charges	482,333	470,111	470,148	474,198	471,486
7	Service Charge	1,375,000	1,401,125	1,427,746	1,454,874	1,482,516
8	Subtotal Other Operating Revenues	7,362,700	10,382,700	11,234,200	11,731,800	12,926,300
	<u>Miscellaneous Revenues</u>					
9	Land and Building Rentals	4,252,000	4,332,788	4,415,111	4,498,998	4,584,479
10	New Water Services	2,402,000	2,447,638	2,494,143	2,541,532	2,589,821
11	Services Rendered to Others	10,762,382	10,966,867	11,175,238	11,387,567	11,603,931
12	Other Revenue	393,813	401,295	408,920	416,690	424,607
13	Lakes Recreation	1,340,611	31,300	31,895	32,501	33,118
14	Subtotal Miscellaneous Revenues	19,150,806	18,179,900	18,525,300	18,877,300	19,236,000
	<u>Other Income</u>					
15	Damages Recovered	290,200	295,714	301,332	307,058	312,892
17	Sale of Land	3,213,413	115,000	115,000	115,000	115,000
18	Subtotal Other Income	3,503,613	410,714	416,332	422,058	427,892
19	Interest Income	8,744,400	21,201,700	13,548,700	22,393,200	15,716,000
	<u>Capacity Charge Revenue</u>					
21	Capacity Charges	12,457,000	14,291,979	14,452,666	14,575,633	14,406,520
22	Total Revenues	329,820,319	363,684,792	378,738,898	411,862,391	432,291,111

SUMMARY OF OPERATING COSTS

Line No.	Description	Budget Year	Projected			
		2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$
1	Water Purchase Costs	125,340,073	120,025,426	121,027,939	122,276,807	123,612,021
2	Administration	16,040,642	17,638,691	18,245,734	19,531,784	20,216,367
3	Customer Support	32,627,635	35,878,164	37,112,926	39,728,828	41,121,312
4	Water Operations	73,207,771	88,063,275	90,476,588	100,489,521	103,370,233
5	Engineering And CIP Management	8,863,795	9,746,851	10,082,293	10,792,943	11,171,232
6	Water Policy And Strategic Planning	6,952,380	7,645,011	7,908,118	8,465,521	8,762,235
7	Total O&M	263,032,296	278,997,419	284,853,598	301,285,404	308,253,399

SUMMARY OF PROJECTED CAPITAL IMPROVEMENT PROGRAM

Line No.	Description	2008	2009	2010	2011
1	Water Treatment Plants	71,312,495	47,600,699	29,499,980	3,389,671
2	Transmission Pipelines	9,782,916	17,109,888	4,620,633	38,476,636
3	Distribution Lines	31,200,000	43,280,000	45,102,614	46,933,049
4	Pump Stations	7,317,320	4,111,657	525,318	752,652
5	Treated Water Reservoirs	8,842,219	22,890,797	36,739,879	13,913,634
6	Reclaimed Water Facility	8,147,718	5,799,238	637,745	500,000
7	Miscellaneous	6,104,298	2,302,466	1,795,162	1,162,724
8	Contingencies	6,251,250	6,208,946	3,127,047	3,087,750
9	Raw Water Reservoirs	1,748,221	5,081,715	10,060,136	23,641,411
10	Program Management	4,000,000	4,000,000	4,000,000	4,000,000
11	Total	154,706,437	158,385,406	136,108,514	135,857,527

In addition, the following Water Rate Model Assumptions were made:

Population Growth Projections: City of San Diego growth projections are based on San Diego Association of Governments (SANDAG) 2030 Forecasts which was approved by the Board of SANDAG in November 2003. The growth projections for FY08 – FY10 are 1.1% annually and 1% annually thereafter. These rates are applied to the number of customer accounts. Current accounts are from the Water Utilities Customers Information System Monthly Rate Code Summary (Actual).

Right of Way Fees: No Right of Way fees are included.

Private Financing: Private short-term financing is assumed to be approximately \$57 million in January 2007. This amount will cover the balance of the FY07 CIP. Additional Private Financing Funds may be required in FY 2008.

Public Financing: The model assumes a public financing in July 2007 of approximately \$335 million which includes refinancing the \$57 million private financing, and in July 2009 of approximately \$260 million.

Capital Financing: The model assumes that capital costs will be 80% financed and 20% pay-as-you-go in FY08 and later.

Capacity Charges: The capacity charge is a full cost recovery charge reviewed as part of the Cost of Service Study (COSS). The result of that study increases the capacity charge to \$3,047 (from \$2,550) which is incorporated in the rate model.

Fund Balance Interest: Interest rates estimated for projected earnings on fund balance are based on recent 15 years interest earnings using the U.S. Treasury Current Value of Funds Rate which is 4.5% beginning in FY09. The interest rate for FY07 and FY 08 are 3% and 4%, respectively.

Offerings Interest Rates: Interest rates are estimated for the private short-term financing to be 4.2% and for the projected public financing to be 6%, based on the financial advisors' estimates.

Inflation: Annual inflation for operations and maintenance costs, except Salaries and Wages, is 4% based on the most recent 15 year San Diego area consumer price index for all urban consumers. The annual inflation for capital projects is stated as a conservative 4% based on the Engineering News Record Construction Cost Index most recent 10 year annual average and 15 year annual average.

Salaries and Wages: Salaries and Wages are increased by 4% in FY08 but are not increased thereafter until FY13, consistent with the City's 5-year financial plan.

Position Reductions: Assumes the reduction of 42.5 positions in FY08 to reflect Mayor's direction to streamline.

Lakes Recreation: Assumes the transfer of the Lakes Recreation program to the Park and Recreation Department in FY08 reflecting the reduction of 31 FTEs and the associated reduction in O&M costs and revenue.

Retiree Health: The Water Fund will contribute its proportional share to the Retiree Health fund. There is a three year ramp up to full funding of an Annual Required Contribution. The cost is estimated at \$2 million in FY08 and ramps up to \$6 million in FY10 and stays at that level in FY11. Cost estimates provided by the office of the Chief Financial Officer.

Pension Costs: Additional pension costs are reflected based on the Water Fund's proportionate share to fully fund the City's contribution to the pension fund. This is estimated at \$2.4 million per year for FY08 thru FY11. Cost estimates provided by the office of the Chief Financial Officer.

Enterprise Reporting Program: Assumes the Water Fund's proportionate share of costs for implementation of an Enterprise Reporting Program consistent with the Mayor's response to the Kroll Report. Cost estimates provided by the office of the Chief Financial Officer.

General Government Services: Additional costs for General Government Services are reflected based on the reorganization of the City government and the allocation of additional departments not previously included in the calculation. Cost estimates provided by the office of the Chief Financial Officer.

Treated Water Purchases: Rate case assumes the City will not be a net purchaser of treated water beginning in FY2010. Treated Water Purchases were approximately 33,000 Acre Feet/Year since FY03.

Water Conservation: Based on the City's Long-Range Water Resources Plan. Conservation is compared to water sales in FY89. Conservation is anticipated to increase from 11.38% in FY08 to 13.50% in FY18. An additional 2% is added each year for passive conservation.

Financial Results: The FY 2003, 2004, 2005 and 2006 financial results are based on the best available financial data from the office of the City Auditor and Comptroller.

Grants: The City is actively pursuing Proposition 50 grants and other grants, however they are not included in the model unless grant agreements have been approved by the City and the granting agency.

Capital Improvement Costs: Capital project costs are estimated based on current design, construction management, and construction cost plus a contingency equal to approximately 5% of construction cost. An inflation factor, calculated as described above under "Inflation", is added to the costs in the out-years.

Operating Reserve: This reserve is currently a 45 day operating reserve that will be ramped up over the next 4 years to 70 days in FY11.

Secondary Purchase Reserve: This reserve is intended as an emergency reserve for the purchase of water in the event of a drought or other emergency that suddenly disrupts the normal supply of water. The size of this reserve is intended to be equal to 6% of the annual water purchase budget.

Rate Stabilization Fund: The rate stabilization fund was established to stabilize the water rates in future years.

Unallocated Reserve: The unallocated reserve is intended to provide for unanticipated needs that arise during each year. Historically this has been used for unanticipated capital needs and large liability claims. This reserve will be set at 4% of the department's operating budget in FY08 and thereafter.

CIP Reserve: The CIP reserve is budgeted at \$5 million in the CIP budget. This reserve is intended to provide for emergency capital needs in the event of the catastrophic failure of a major capital facility.

Cost of Service Study

The Cost of Service Study (attached) is a comprehensive water cost of service and rate design study that includes a review of revenue requirements, user classifications, cost of providing service, and recommendations regarding the design of a system of user charge alternatives for the City's water service. The City Council approved an agreement with Raftelis Financial Consultants, Inc. (RFC) for a Cost of Service Rate Study (COSS) on October 24, 2006. The COSS recommends changes to user classifications, cost allocation and capacity charges which will serve to increase equity in the apportionment of system costs beginning in Fiscal Year 2008.

The focus of the COSS was on the City's retail water service and capacity charges. The specific objective of the Study is to develop cost of service rates that charge customers in proportion to the cost of serving them and to ensure capacity charges are sufficient for the expansion of the system. The cost of service findings and suggested changes are listed below.

Cost of Service is a methodical process by which revenue requirements are used to generate a system of fair and equitable costs in proportion to the service received for each user class. The cost of service allocation conducted in this study are based on the base-extra capacity method endorsed by the American Water Works Association (AWWA), a nationally recognized industry group. Under the base-extra capacity method, revenue requirements are allocated to the different user classes proportionate to their use of the water system.

The COSS recommendations are consistent with and are reflected in the water rate case. The City Council's ability to deviate from these rates is very narrow: the rate adjustments proposed by this Report can only be changed if the alterations are consistent with the Cost of Service Study. Changes that are inconsistent with the Study could violate the requirement of Proposition 218 that water fees not exceed the proportionate cost of providing the service to each parcel. Therefore, any proposed changes should be reviewed.

User/Usage Characteristics

The Water Department has various types of customers, which include Single Family Residential (SFR), Other Domestic (Multi-Family Residential), Commercial, Industrial, Temporary Construction and Irrigation. SFR comprise the bulk of customers with approximately 80% of all meters. Multi-Family account for more than 10% of the meters. Commercial, Industrial, Temporary Construction and Irrigation make up the remaining 10% of accounts, but account for approximately 40% of the usage.

Projected Annual Water Usage by Class for FY 2008 is:

Usage by Class	HCF	% of Total
SFR Blocks		
0 - 7	15,620,416	17.1%
8 - 14	8,943,800	9.8%
Over 14	9,915,197	10.8%
Total SFR	34,479,413	37.7%
Other Domestics (MFR)	20,519,164	22.4%
Total SFR and MFR	54,998,577	60.1%
Commercial	22,207,400	24.3%
Industrial	1,613,743	1.8%
Temp. Construction	346,667	0.4%
Irrigation	12,294,791	13.4%
Total Comm, Ind, Const, Irrig	36,462,601	39.9%
Total	91,461,178	100.0%

Revenue

The Water Department's principal source of revenues is from water sales. The total FY2008 revenue requirements from retail users – which is generated by totaling operation and maintenance, debt service, and cash-financed capital projects and deducting any revenue from other non-rate sources, is estimated to be \$287.4 million. Of this, approximately \$219.8 million are operating costs. The remaining \$68 million are capital-related costs associated with debt service and cash-financed capital projects. The primary sources of funding for capital improvements include water capacity fees, bond proceeds, grants, loans, pay-as-you-go revenues and interest earnings.

These revenue requirements are used to develop the fixed meter charges and commodity rates in a manner consistent with the cost of service principles. In order to meet projected revenue requirements and to maintain desired operating funds, the following annual revenue adjustments are recommended by the Study.

FY 2008	FY 2009	FY 2010	FY 2011
6.5%	6.5%	6.5%	6.5%

These new revenue demands have been offset through increased efficiencies in the operation and maintenance of both systems over the past few years. The improved efficiencies have effectively lowered the level of potential rate increases. Improved efficiencies helped the water system by keeping an additional 3% need off first year rate proposals. Higher rates would have also been necessary in subsequent years without continuing efficiency measures. At the Mayor's direction, an independent board will be appointed to oversee a new annual accounting review process to be put in place.

Rate Design

The City's water rates, effective as of July 1, 2006, include fixed service charges and water commodity rates. The fixed service charges are consistent across all user classes and vary by meter size. Service charges range from \$15.87 per month for a ¾ inch meter, which is typically used by Single Family Residential (SFR) customers, to \$6,514.14 per month for a 16 inch meter used by large industrial or wholesale customers. SFR Customers are billed on a three-tier rate structure. The remaining customers are charged a uniform rate of \$2.03 per hundred cubic feet (HCF) of water used.

Study Recommendations

The study recommends the City consider changes which include modifications of user classification, and cost allocations.

USER CLASSIFICATION

Based upon peaking characteristics of different customer classes the Study recommends that customers be classified as follows:

- SFR
- Other Domestic (Multi-Family)
- Commercial and Industrial
- Irrigation and Construction

The justification for creating new user classes is to track costs and design separate rates for these customers as a means of increasing equity among two classes of ratepayers.

Residential customers, including SFR and Other Domestic are estimated to have similar peaking characteristics. However, since only SFR rates are tiered, they are separated into SFR and Other Domestic classes. Commercial and Industrial customers are estimated to have similar peaking characteristics and can be included into another class because they have lower peaking characteristics than residential customers. Temporary Construction demand characteristics are similar to those of Irrigation; both customers have higher peak demands than the other classes, therefore it is reasonable to create a separate user class for them.

During peak demand relatively large amounts of water are used in short periods of time when compared to average usage. Peak usage is more costly to deliver than constant usage because it requires more pumping and large capacity facilities to produce and deliver the water in a short time span. To maintain fairness and equitability, rates should be higher for customers with higher peak usage.

SERVICE CHARGE

The Study recommends continued use of a rate structure that includes both a fixed monthly service charge, which is consistent for all users of similar sized meters, and a variable water usage charge. Costs to be recovered in the service charge include costs based on capacity such as:

- Maintenance of meters and services
- Portion of capital costs allocated to provide peaking capacity
- Public fire protection (hydrant maintenance)

And costs that are independent of meter size such as:

- Meter reading
- Customer billing and collection

The service charges for larger meters currently used by the City are higher than those derived from the application of industry standards. The Study therefore suggests that the City consider revising service charges to more proportionately recover its costs of providing service. The reduced revenue from service charges results in slightly higher commodity rates to maintain full cost recovery. Use of proposed COS based service charges would result in a reduced bill for some Single Family Residential customers, which would benefit low volume water users.

The main objective of the Study is to present options that will result in a proportionate allocation of costs to all user classes in proportion to the costs of serving these customers. The suggested revisions to service charges and commodity rates are designed to meet that objective. Under the proposed Cost of Service-based rates, any user greater than 13 hcf will receive higher bills, while users less than 4 hcf will experience a reduction in monthly bills. Higher volume SFR users will experience these increases due to the higher usage rates that accompany and offset reduced service charges. At the same time, COS rates will encourage conservation and provide low-volume users with material rate relief.

CAPACITY CHARGE

Capacity fees are collected to accommodate new growth and for users to buy into the system at an appropriate rate to compensate for the existing infrastructure. Capacity fees can only be used for capital costs and only those capital costs associated with expansion of the system. It is acceptable to use water sales revenues for both expansion and replacement. This requirement is a result of Assembly Bill 1600.

As part of the Study the costs associated with capacity fees were analyzed and RFC has recommended an increase from \$2,550 to \$3,047 per Equivalent Dwelling Unit (EDU). The Water Department will be asking Council to approve this increase based on the recommendations of RFC at the February 26, 2007 council meeting.

This increase is mainly due to the capture of costs associated to recent additions to water system infrastructure. Significant additions took place during the re-audit of the City's 2003 financial statements. Capacity fees are used for new customers to buy into the existing infrastructure. The revaluation of the system, which was part of this audit, has resulted in an increase to this fee.

The Study recommendations are consistent with and are reflected in the water rate case. The City Council's ability to deviate from these rates is limited. The rate adjustments proposed by this Report can only be changed if the alterations are consistent with the Cost of Service Study. Changes that are inconsistent with the Study could violate the requirement of Proposition 218 that water fees not exceed the proportionate cost of providing the service to each parcel. Therefore, any proposed changes should be carefully examined.

Wholesale Water Rate Pass Through

San Diego mostly relies upon imported water from Northern California and the Colorado River. The City currently purchases 90 percent of its water from the San Diego County Water Authority (CWA), which in turn purchases water from Metropolitan Water District of Southern California (Metropolitan). CWA periodically increases the rates it charges the City for water. These increases are based on costs of infrastructure, operations, maintenance, and water purchases from Metropolitan. These increases are known as "pass throughs".

On January 1, 2007, CWA will be increasing the rates to the City of San Diego for Water Purchases. These increase will not be passed on to City of San Diego rate payers until July 1, 2007 when the first of the proposed 6.5% increases takes effect. This CWA increase is absorbed as part of this 6.5% increase. No additional future pass throughs are included in the proposed 6.5% rate increases for any future years.

CWA is currently reassessing their needs and will be finalizing their reports for presentation to the CWA Board in the Spring of 2007. It is anticipated these reports will disclose the need for more rate increase pass throughs. These pass throughs are subject to Proposition 218 noticing. The Water Department intends to come back to Council in the Fall of 2007 to request authorization to notice any future pass throughs, and increase rates accordingly, that are identifiable at that time.

Mayor's Pre-conditions

As promised at the outset of his administration, Mayor Sanders directed City staff to undertake review efforts in response to concerns about potential mismanagement and inefficiencies in the water system. The Mayor's pre-conditions were set out as a requirement for considering any new rate recommendations included:

- Completion of a comprehensive examination of the budgets and rate structures.
- A review by outside auditors of past practices regarding the use of previous rate increases and bond proceeds.
- A detailed report regarding whether the water system had raised rates for projects that have not been, or never will be, completed.
- An analysis of the various operational and capital demands on the cash flow.
- A complete accounting of any funds that have been transferred out and for what purpose.
- A study of how San Diego's water rates compare with surrounding agencies, and
- A thorough report of what administrative expenses can be trimmed.

To that end, several reports were completed. These included reviews of the following:

- 1) tracing the use of revenues generated by a series of water rate increases for fiscal years 2003, 2004 and 2005 approved by the City Council;
- 2) tracing the use of the proceeds from the Series 2002 Water Revenue Bond
- 3) reviewing transfers and interfund charges (including Service Level Agreement charges) paid by the Water Fund to other City Funds (including the General Fund) for the fiscal year ending June 30, 2003

An Independent review was also completed for the Proposed Water Rate Case.

In addition to the outlined pre-conditions, the mayor has stated that additional safeguards will be put in place to ensure that funds derived from rate payers are spent appropriately.

Results of Mayor's Preconditions

The City entered into agreements with the audit firm of Mayer Hoffman McCann P.C. (MHM) to perform a review of how bond proceeds and previous rate increases were used, and a review of the proposed rate increases in the Water Department. MHM offered the findings of these reviews in a series of reports (see 4 reports attached) delivered to the Mayor in August 2006. The Mayor adopted all the remedial recommendations. These reports and their associated findings are listed below:

- Agreed upon services for rate increase
 - Finding: MHM was able to confirm the calculation of the revenue generated by each increase and to reasonably test the expenditures associated with these increases. The results illustrated that the revenues generated from the series of rate increases were appropriately expended and no specific recommendations were made.
- Agreed upon services for use of bond proceeds
 - Finding: MHM recommended that the bond fund only be charged for expenditures incurred and paid or payable. Generally Accepted Accounting Principles provide that expenditures would only be recorded if the City Attorney's office believed that it was probable that the City would have to pay the contractor. If the Attorney's office believed that the risk of loss was only possible or remote (as those terms are defined by professional standards), the liability and expenditure would not be recorded in accordance with Generally Accepted Accounting Principles.
 - Finding: MHM recommended that the CIP Analyst modify the allocation spreadsheets to include the allocation calculations for each project. The spreadsheets allocating costs across projects should also be retained with the vendor invoice to support project specific charges.
 - Finding: MHM recommended that the individuals initiating journal entries provide documentation explaining the rationale behind allocations between projects. The documentation should be attached to the journal voucher. Additionally, when a vendor invoice is allocated between projects, the individual preparing the allocation should attach documentation explaining the allocation methodology. The documentation for transactions posted to the general ledger should stand on its own without further explanation from staff.
- Agreed upon services for interfund transfers
 - MHM recommended the whole practice of the use of SLA's should be reviewed by the City. A committee was established to review the appropriateness of all SLA's and where appropriate more conventional cost allocation approaches will be implemented.

In March 2006, the City Council adopted a Cost Allocation Policy which describes when and how costs should be allocated to multiple funds and programs. This Policy will serve as the foundation for changes.

The City concurs with all of MHM's recommendations and will take immediate steps to ensure that this practice does not continue. Any funds inappropriately transferred in fiscal year 2006 will be returned to the appropriate fund, including but not limited to the findings and recommendations totaling \$644,206 found on pages 2 and 3 of the MHM Water Funds Transfer Report.

- Agreed upon services for proposed water rate increases
MHM applied and enumerated many procedures to ensure the water rate case was consistent and that estimates were in line with expectations and trends. Their review noted no significant differences that were not fully explained.

Efficiency Efforts

The Water Department has taken many steps in reducing administrative expenses and increasing efficiency:

- The Water Department has identified 42.5 Full Time Equivalents (FTE) that may be eliminated in FY 2007, for an estimated savings of \$3,225,226.
- Water Operations Division initiated a five year Bid-To-Goal contract in FY 2005. Audited savings to date from that program total \$9,747,723.
- Customer Support Division is currently in the process of obtaining final approval for the execution of their Bid-to-Goal contract for FY 2007.
- The Water Department is participating in numerous Business Process Re-engineering initiatives and anticipates further savings to report at the end of the calendar year.

The department has been proactive in its efforts towards continuous improvement and efficiencies through the Water Operations Bid-to-Goal:

- Overtime costs reduced 25 percent from FY04. FY05 savings from reduced overtime was \$600,000. FY06 savings are anticipated to be an additional \$100,000.
- Motive equipment reductions and efficiencies in fleet usage in FY 2005 resulted in a savings of \$600,000. Fleet usage was re-evaluated, resulting in large number of pool vehicles returned to Equipment Division. Outside equipment rentals were also reduced.
- Based on the review of internal water purchase processes, the Optimization Program was established to centralize and improve systems operations to optimize our water supply and electrical usage. During FY05, due to the Optimization Program, treated water purchased was down 33 percent for a savings of \$1 million. FY05 energy savings from the Optimization Program was \$1.2 million. FY06 estimated energy savings are the same as FY05.
- The Construction and Demolition Material Recycling Program has resulted in a 60 percent reduction of material taken to the City's landfill.
- Customer Support Division savings due to process improvements and operational efficiencies is expected to total \$3.2 million for the period FY07 through FY11.

Current and Proposed Rates

The study and rate case have resulted in the following recommended water rate structure. Two components of water rates are the Service Charge and the Commodity Rates. The Service Charge is used to recover the fixed charges associated with the water system. The commodity

rates recover variable components of the water system. A comparison of City of San Diego rates compared to other local water agencies is attached. The proposed service and commodity charges with rate increases are presented below:

		Service Charge					
Meter	2007	2008	2008	2009	2010	2011	
Size	Existing	City	Proposed	Proposed	Proposed	Proposed	
inches	\$/month	\$/month	\$/month	\$/month	\$/month	\$/month	
5/8	15.87	16.90	15.18	16.17	17.22	18.34	
3/4	15.87	16.90	15.18	16.17	17.22	18.34	
1	17.11	18.22	22.17	23.61	25.15	26.78	
1 1/2	75.41	80.31	38.13	40.61	43.25	46.06	
2	116.24	123.80	58.09	61.87	65.89	70.17	
3	414.73	441.69	104.98	111.80	119.07	126.81	
4	692.00	736.98	171.83	183.00	194.89	207.56	
6	1,542.72	1,643.00	337.46	359.39	382.76	407.63	
8	2,081.78	2,217.10	537.01	571.92	609.09	648.68	
10	2,793.63	2,975.22	770.49	820.57	873.91	930.71	
12	3,892.44	4,145.45	1,435.00	1,528.28	1,627.61	1,733.41	
16	6,514.14	6,937.56	2,499.62	2,662.10	2,835.13	3,019.42	

		Commodity Rate					
Customer	2007	2008	2008	2009	2010	2011	
Class	Existing	City	Proposed	Proposed	Proposed	Proposed	
	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	
<u>SFR</u>							
0 - 7	1.731	1.844	2.262	2.409	2.566	2.732	
7-14	2.163	2.304	2.461	2.621	2.791	2.973	
Over 14	2.372	2.526	2.775	2.955	3.147	3.352	
<u>General Service</u>							
Other Domestic (MFR)	2.003	2.133	2.461	2.621	2.791	2.973	
Commercial & Industrial	2.003	2.133	2.357	2.510	2.673	2.847	
Temp. Constr. & Irrigation	2.003	2.133	2.524	2.688	2.863	3.049	

The above Proposed Rate Increase will result in the following increases to a customers monthly water bill based on the associated consumption amounts recorded as Hundred Cubic Feet (HCF). For customers with a ¾ inch meter Monthly Bill Calculation is as follows:

SFR - ¾" HCF/Month	FY 07 Existing \$/Mo.	FY 08 Existing \$/Mo.	FY 08 Proposed \$/Mo.	FY 09 Proposed \$/Mo.	FY 10 Proposed \$/Mo.	FY 11 Proposed \$/Mo.
2	19.33	20.59	19.70	20.98	22.35	23.80
4	22.79	24.28	24.23	25.80	27.48	29.27
6	26.26	27.96	28.75	30.62	32.61	34.73
8	30.15	32.11	33.48	35.65	37.97	40.44
10	34.48	36.72	38.40	40.89	43.55	46.38
12	38.80	41.32	43.32	46.13	49.13	52.33
13*	40.97	43.63	45.78	48.76	51.92	55.30
14	43.13	45.93	48.24	51.38	54.72	58.27
16	47.87	50.98	53.79	57.29	61.01	64.98
18	52.62	56.04	59.34	63.20	67.31	71.68
20	57.36	61.09	64.89	69.11	73.60	78.39

*Average Usage

13 HCF is the Average Usage for Single Family Residences (SFR) with a ¾ inch water meter. The median monthly household income in the City is \$5,173 (annual income of \$62,085) as of 2005. A \$45.78 water bill-the SFR bill assuming average usage and Proposed FY08 rates, represents less than one percent (1%) of monthly median household income. By EPA guidelines, bills of less than two percent (2%) of median housing income are deemed affordable.

Monthly Bill Calculations Other Domestic ¾ inch meter						
Other Domestic MFR - ¾" HCF/Month	FY 07 Existing \$/Mo.	FY 08 Existing \$/Mo.	FY 08 Proposed \$/Mo.	FY 09 Proposed \$/Mo.	FY 10 Proposed \$/Mo.	FY 11 Proposed \$/Mo.
20	55.93	59.57	64.39	68.58	73.03	77.78
40	95.99	102.23	113.6	120.99	128.85	137.23
60	136.05	144.89	162.81	173.4	184.67	196.67
80	176.11	187.56	212.03	225.81	240.48	256.12
100	216.17	230.22	261.24	278.22	296.3	315.56
120	256.23	272.88	310.45	330.63	352.12	375.01
140	296.29	315.55	359.66	383.04	407.94	434.45
160	336.35	358.21	408.87	435.45	463.75	493.9
180	376.41	400.88	458.08	487.86	519.57	553.34
200	416.47	443.54	507.29	540.27	575.39	612.79

For customers with a 1 inch meter Monthly Bill Calculation is as follows:

Commercial/ Industrial – 1" HCF/Month	FY 07 Existing \$/Mo.	FY 08 Existing \$/Mo.	FY 08 Proposed \$/Mo.	FY 09 Proposed \$/Mo.	FY 10 Proposed \$/Mo.	FY 11 Proposed \$/Mo.
50	175.56	186.97	155.98	166.12	176.91	188.41
100	275.71	293.63	273.82	291.62	310.58	330.77
150	375.86	400.29	391.67	417.13	444.24	473.12
200	476.01	506.95	509.52	542.64	577.91	615.47
250	576.16	613.61	627.37	668.14	711.57	757.83
300	676.31	720.27	745.21	793.65	845.24	900.18
350	776.46	826.93	863.06	919.16	978.9	1,042.53
400	876.61	933.59	980.91	1,044.67	1,112.57	1,184.89
450	976.76	1,040.25	1,098.75	1,170.17	1,246.24	1,327.24
500	1,076.91	1,146.91	1,216.60	1,295.68	1,379.90	1,469.59

For customers with a 2 inch meter Monthly Bill Calculation is as follows:

Temp. Const/ Irrigation - 2" HCF/Month	FY 07 Existing \$/Mo.	FY 08 Existing \$/Mo.	FY 08 Proposed \$/Mo.	FY 09 Proposed \$/Mo.	FY 10 Proposed \$/Mo.	FY 11 Proposed \$/Mo.
200	516.84	550.43	562.84	599.42	638.39	679.88
400	917.44	977.07	1,067.59	1,136.98	1,210.89	1,289.59
600	1,318.04	1,403.71	1,572.34	1,674.54	1,783.39	1,899.31
800	1,718.64	1,830.35	2,077.09	2,212.10	2,355.89	2,509.02
1,000	2,119.24	2,256.99	2,581.84	2,749.66	2,928.39	3,118.73
1,200	2,519.84	2,683.63	3,086.59	3,287.22	3,500.89	3,728.45
1,400	2,920.44	3,110.27	3,591.34	3,824.78	4,073.39	4,338.16
1,600	3,321.04	3,536.91	4,096.09	4,362.34	4,645.89	4,947.87
1,800	3,721.64	3,963.55	4,600.84	4,899.89	5,218.39	5,557.58
2,000	4,122.24	4,390.19	5,105.59	5,437.45	5,790.89	6,167.30

FISCAL CONSIDERATIONS:

Cost of noticing property-owners and customer base is approximately \$230,000. This cost will be shared equally by the Water Department and Metropolitan Wastewater Department.

PREVIOUS COUNCIL and/or COMMITTEE ACTION:

The water rate subcommittee of the Public Utilities Advisory Committee (PUAC) on 11/29/2006 and the full PUAC on 12/4/2006 unanimously supported the proposed water rate adjustments of 6.5% in Fiscal Years 2008, 2009, 2010, and 2011, and the COSS recommendations.

COMMUNITY PARTICIPATION AND PUBLIC OUTREACH EFFORTS:

Public Input sessions have been held throughout San Diego as follow:

Various stakeholder meetings

November 27, 2006 Town Hall Meeting San Ysidro Multi-Cultural Center

November 28, 2006 Town Hall Meeting Balboa Park War Memorial

November 29, 2006 PUAC Water and Wastewater Rate Sub-Committee Meetings (2)

December 4, 2006 Full PUAC Meeting

December 5, 2006 Town Hall Meeting Rancho Bernardo Library

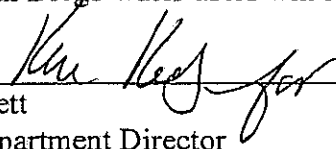
A stakeholder meeting will be scheduled the week of January 2, 2007

Additional public outreach and workshops will be scheduled before the public hearing date.

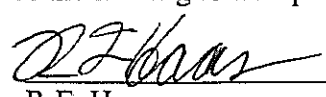
Additional community outreach briefings will be scheduled at the request of Council Members or the Community.

KEY STAKEHOLDERS AND PROJECTED IMPACTS:

City of San Diego water users will receive a notice of the hearing to take place on February 26, 2007.


J.M. Barrett

Water Department Director


R.F. Haas

Deputy Chief of Public Works

Attachments:

1. Proposition 218 Notice
2. 4-year Capital Improvement Project Forecast
3. Raftelis Financial Consultants, Inc. Water Cost of Service Rate Study
4. Department of Health Service Compliance Order No. 04-14-96CO-022
5. Mayer Hoffman McCann P.C., Independent Accountant's Review (4 Reports)
6. Water Rate Comparison

To locate the attachments please see the following pages:

- Attachment 1 see pages 22 thru 27
- Attachment 2 see pages 28 thru 29
- Attachment 3 see pages 30 thru 88
- Attachment 4 see pages 89 thru 134
- Attachment 5 see pages 135 thru 162
- Attachment 6 see page 163

NOTICE OF PUBLIC HEARING [insert city logo]

The San Diego City Council will hold a public hearing to consider proposed increases in water and sewer rates and charges. Interested parties are invited to attend:

Date: Monday, February 26, 2007

Time: 2 p.m.

Place: City Administration Building
202 "C" Street, 12th Floor Council Chambers
San Diego, CA

Explanation of Rate Increases

If adopted, the proposed rate changes will be implemented over the next four years. The proposed rates are presented in the tables below. The amount of your utility bills will depend on your customer class (single family residential rates are different than industrial rates, for example) and the amount of water you use.

The proposed increases will help the City provide reliable, high quality water and sewer services. The City water and wastewater departments rely only on customer revenues to provide these services. No local, state or federal taxes offset the cost of these services. The proposed rates collect only that estimated amount needed to cover actual costs of water and sewer service. As discussed in more detail below, service costs are increasing due to more demanding federal and state environmental rules, inflation, and the need to maintain equipment and facilities to avoid more expensive repairs later.

How Can I Participate?

Interested parties can comment on the proposed rates. California law prohibits the City from implementing the new rates if a majority of the affected property owners file written protests opposing the rates before the end of the public hearing. Written protests must be submitted to the City Clerk, Mail Station No. _____ City Administration Building, 202 "C" Street, San Diego, CA 92101, before the end of the public hearing which is scheduled for 2:00 pm, February 26, 2007. Each protest must identify the affected property (by assessor's parcel number or street address) and include the signature of a record property owner or utility customer. Email protests will not be accepted. Although oral comments at the public hearing will not qualify as formal protests unless accompanied by a written protest, the City Council welcomes input from the community during the public hearing.

How Can I Get More Information?

If you have any questions regarding the hearing, the proposed rates or how to file a protest, please contact Customer Service at 619-515-3500 for both water and sewer rates.

More information regarding the proposed water and sewer rates is available on the City website: www.sandiego.gov. This information includes the recently completed Water and Wastewater Cost of Service Studies which describe in detail the basis and reasons for the proposed charges. The Studies can also be viewed at the City Clerk's Office located at 202 C Street, 2nd Floor, San Diego, CA 92101.

Proposed Water Service Rates and Charges

The City supplies water to more than 1.3 million customers through almost 3,500 miles of water pipes, three water treatment plants, nine raw water storage facilities, and thirty treated water storage facilities. The principal reasons for the proposed water rate increases are to provide revenues sufficient to:

- ✓ Operate and maintain, repair and replace water facilities to maintain system reliability, including water treatment plant upgrades and reservoir improvements.
- ✓ Replace aging pipes, pumps and other infrastructure, including 75 miles of cast iron pipe, to reduce the number of pipeline breaks and emergency repairs.
- ✓ Comply with federal and state environmental and safe drinking water rules, including a State Department of Health Services Compliance Order requiring among other things upgrading and expansion of water treatment capacity.

To accomplish the above purposes, the City proposes to increase the overall revenue to the Water Department incrementally over the next four years through annual rate increases for all customer classes as follows:

July 1, 2007	July 1, 2008	July 1, 2009	July 1, 2010
6.5%	6.5%	6.5%	6.5%

Additionally, consistent with industry cost of service principles and accepted rate setting methodologies, the City is proposing to refine its water rates by reallocating charges to more accurately reflect costs of service. Proposed changes include increasing the number of customer classes, lowering overall cost recovery from fixed monthly charges, and increasing overall cost recovery based on the amount of water used. These changes may increase or decrease customers' bills, depending on the customers' class and the amount of water used. The breakdown of the proposed water rates is:

Monthly Base Service Charge

Meter Size	Existing FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Inches	Existing \$/month	Proposed \$/month	Proposed \$/month	Proposed \$/month	Proposed \$/month
5/8	15.87	15.18	16.17	17.22	18.34
3/4	15.87	15.18	16.17	17.22	18.34
1	17.11	22.17	23.61	25.15	26.78
1 1/2	75.41	38.13	40.61	43.25	46.06
2	116.24	58.09	61.87	65.89	70.17
3	414.73	104.98	111.80	119.07	126.81
4	692.00	171.83	183.00	194.89	207.56
6	1,542.72	337.46	359.39	382.76	407.63
8	2,081.78	537.01	571.92	609.09	648.68
10	2,793.63	770.49	820.57	873.91	930.71
12	3,892.44	1,435.00	1,528.28	1,627.61	1,733.41
16	6,514.14	2,499.62	2,662.10	2,835.13	3,019.42

Commodity Rate (HCF = Hundred Cubic Feet; SFR = Single Family Residential)

Proposed Customer Class	HCF	FY 2007 Existing \$/HCF	FY 2008 Proposed \$/HCF	FY 2009 Proposed \$/HCF	FY 2010 Proposed \$/HCF	FY 2011 Proposed \$/HCF
SFR	0-7	1.731	2.262	2.409	2.566	2.732
	8-14	2.163	2.461	2.621	2.791	2.973
	Over 14	2.372	2.775	2.955	3.147	3.352
Other Domestic		2.003	2.461	2.621	2.791	2.973
Commercial & Industrial		2.003	2.357	2.510	2.673	2.847
Temporary Construction & Irrigation		2.003	2.524	2.688	2.863	3.049

*Currently there are two Customer Classes: SFR and Other.

Proposed Sewer Service Rates and Charges

The City supplies sewer services to more than 1.3 million City residents through 3,000 miles of sewer pipes and four major treatment plants. The principal reasons for the proposed sewer rate increases are similar to those for water service:

- ✓ Operate and maintain, repair and replace wastewater facilities to maintain system reliability.
- ✓ Replace aging infrastructure at an estimated cost of roughly \$650 million, including approximately 45 miles of sewer pipes per year.
- ✓ Comply with federal and state environmental rules and guidelines, including resolution of litigation with the federal Environmental Protection Agency and environmental groups over past sewer spills.
- ✓ Settle litigation over the City's past sewer rates, including a temporary four-year rebate to single family residential customers. ("Shames Settlement")

To accomplish the above purposes, the City proposes to increase the overall revenue to the wastewater department incrementally over the next four years through annual rate increases for all customer classes as follows:

	May 1, 2007	May 1, 2008	May 1, 2009	May 1, 2010
General	8.75%	8.75%	7.00%	7.00%
SFR Rebate	3.05%	3.05%	0.60%	0.50%
Total	11.80%	11.80%	7.60%	7.50%

In addition to the rate increase above, the City proposes to use updated treatment costs and loadings and to implement other measures described below, consistent with the Wastewater Cost of Service Study and State guidelines. These adjustments may increase or decrease customers' bills, depending on the customers' class and the amount of water used. The breakdown of the proposed wastewater rates is:

**Rates for Single Family Residential ("SFR") and
Multi-Family Residential ("MRF") Customers**

Customer Class	Current 2007	May 1, 2007	May 1, 2008	May 1, 2009	May 1, 2010
SFR (note 1)					
Usage Fee \$/HCF	2.889	2.890	3.1429	3.3629	3.5983
Base Rate \$/account	11.32	12.31	13.39	14.32	15.33
MFR (note 2)					
Usage Fee \$/HCF	3.721	4.038	4.3913	4.6987	5.0276
Base Rate \$/account	11.32	12.31	13.39	14.32	15.33

**Rates for Single Family Residential ("SFR") and
Multi-Family Residential ("MRF") Customers with Shames Settlement**

Customer Class	Current 2007	May 1, 2007	May 1, 2008	May 1, 2009	May 1, 2010
SFR (note 1)					
Usage Fee \$/HCF	2.889	2.9781	3.2387	3.3831	3.6163
Base Rate \$/account	11.32	12.69	13.80	14.41	15.40
Usage Rebate \$/HCF		(0.0881)	(0.0958)	(0.0202)	(0.0180)
Base Rebate \$		(3.63)	(3.66)	(3.34)	(3.32)
MFR (note 2)					
Usage Fee \$/HCF	3.721	4.1612	4.5253	4.7269	5.0528
Base Rate \$/account	11.32	12.69	13.80	14.41	15.40

- Note 1: Current rates are based on the assumption that 100% of the water used in the winter month of the lowest usage is a good measure of the volume of wastewater generated by a home on a monthly basis. This figure is also capped at 14 Hundred Cubic Feet (HCF). Proposed rates beginning May 1, 2007 will be based on 95% of minimum winter water use and capped at 20 HCF, consistent with State guidelines. New customers will be charged a New Customer rate of \$38.32 per month until they have a winter water use history on which to base their rate (adjustment done each July 1).
- Note 2: 2007 rates are based on 95% of water use.

Rates for Commercial Industrial Customers Discharging Less Than 25,000 GPD

Customer Class	Current 2007	May 1, 2007	May 1, 2008	May 1, 2009	May 1, 2010
Comm/Ind (note 3)					
Flow \$/HCF	2.7534	3.0257	3.2904	3.5208	3.7672
TSS \$/lb	.4294	0.4431	.4819	.5156	.5517
COD \$/lb	.1544	0.1801	.1959	.2096	.2242
Base Fee \$/account	11.32	12.31	13.39	14.32	15.33

Rates for Commercial Industrial Customers Discharging Less Than 25,000 GPD with Shames Settlement

Customer Class	Current 2007	May 1, 2007	May 1, 2008	May 1, 2009	May 1, 2010
Comm/Ind (note 3)					
Flow \$/HCF	2.7534	3.1180	3.3908	3.5419	3.7861
TSS \$/lb	.4294	.4566	.4966	.5187	.5545
COD \$/lb	.1544	.1856	.2018	.2108	.2254
Base Fee \$/account	11.32	12.69	13.80	14.41	15.40

- Note 3: 2007 based on percentage of metered water use returned to sewer and pollutant loading based on national estimates of wastewater generation by businesses in the same Standard Industrial Classification (SIC) code as the business served.

Rates for Large Commercial Industrial Customers

Customer Class	Current 2007	May 1, 2007	May 1, 2008	May 1, 2009	May 1, 2010
Comm/Ind (note 4)					
Flow \$/HCF	2.7534	3.0257	3.2904	3.5208	3.7672
TSS \$/lb	.4294	0.4431	.4819	.5156	.5517
COD \$/lb	.1544	0.1801	.1959	.2096	.2242
Base Fee \$/account	11.32	12.31	13.39	14.32	15.33

Rates for Large Commercial Industrial Customers with Shames Settlement

Customer Class	Current 2007	May 1 2007	May 1 2008	May 1 2009	May 1 2010
Comm/Ind (note 4)					
Flow \$/HCF	2.7534	3.1180	3.3908	3.5419	3.7861
TSS \$/lb	.4294	.4566	.4966	.5187	.5545
COD \$/lb	.1544	.1856	.2018	.2108	.2254
Base Fee \$/account	11.32	12.69	13.80	14.41	15.40

Note 4: 2007 based on percentage of metered water use returned to sewer and pollutant loading based on national estimates of wastewater generation by businesses in the same Standard Industrial Classification (SIC) code as the business served. Proposed rates applicable to large commercial/industrial customers, contract customers and hauled waste customers. No base fee is charged; cost of service is based entirely on volume of wastewater estimated to be generated.

Rates for Contracts: Navy & Hauled Waste Customers

Customer Class	Current 2007	May 1 2007	May 1 2008	May 1 2009	May 1 2010
Flow \$/HCF	2.7534	3.132	3.4061	3.6445	3.8996
TSS \$/lb	0.4294	0.459	0.4992	0.5341	0.5715
COD \$/lb	0.1544	0.186	0.2023	0.2164	0.2316

Rates for Contracts: Navy & Hauled Waste Customers with Shames Settlement

Customer Class	Current 2007	May 1 2007	May 1 2008	May 1 2009	May 1 2010
Flow \$/HCF	2.7534	3.2275	3.5100	3.6664	3.919
TSS \$/lb	0.4294	0.4730	0.5144	0.5373	0.5744
COD \$/lb	0.1544	0.1917	0.2085	0.2177	0.2328

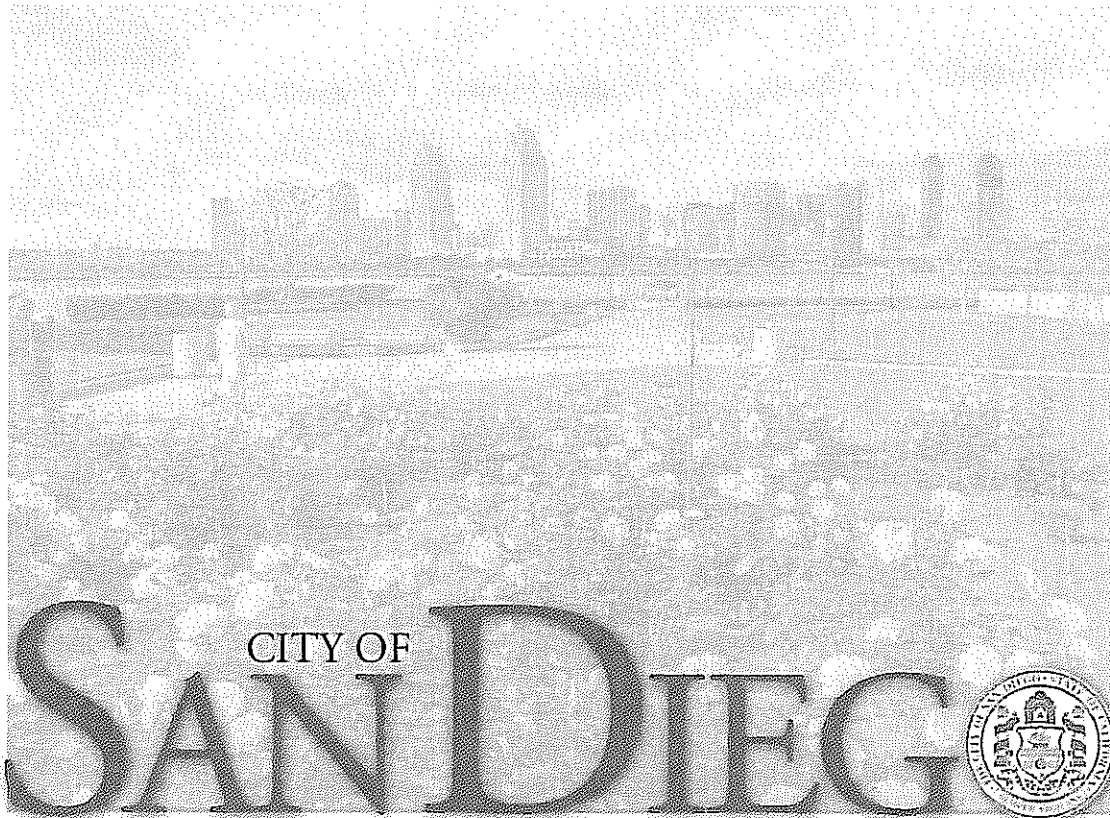
This material is available in alternative formats upon request. To order information in an alternative format, or to arrange for a sign language or oral interpreter for the meeting, please call the Clerk's office at least 5 working days prior to the meeting at 533-4000 (voice) or 236-7012 (TT).

METROPOLITAN WASTEWATER DEPARTMENT
PROJECT FORECASTS FOR FY2008 THROUGH FY2011
 (IN MILLION DOLLARS AT 4% INFLATION)

FUNDING SOURCE	PROJECT TITLE	BOND REIMBURSEMENT					FY 2011	TOTAL
		Pipeline	FY 2008	FY 2009	FY 2010	FY 2011		
MUNI	ANNUAL ALLOCATION - ACCELERATED PROJECTS	0.4	0.5	0.2	1.5	24.3		2.6
MUNI	ANNUAL ALLOCATION - PIPELINE REHABILITATION	5.7	26.0	31.5	23.4	24.3		110.9
MUNI	ANNUAL ALLOCATION - SEWER MAIN REPLACEMENTS	12.0	5.2	25.9	53.8	56.0		152.9
MUNI	ANNUAL ALLOCATION - UNSCHEDULED PROJECTS	1.5	1.1	1.1	1.2	1.2		6.1
MUNI	EAST MISSION GORGE FORCE MAIN REHABILITATIONS	0.1				3.5		3.6
MUNI	EAST MISSION GORGE TRUNK SEWER REHAB	0.1						0.1
MUNI	PIPELINE IN THE R.O.W. & EASEMENTS	0.4						0.4
MUNI	FIRP PH 2 - CONNECT TO COPLEY DR.	0.2						0.2
MUNI	SOUTH METRO SEWER REHABILITATION PHASE IIIB		0.2					0.2
	SUBTOTAL	\$20.4	\$33.0	\$58.7	\$79.9	\$85.0		\$277.0
MUNI	TRUNK SEWERS							
MUNI	ANNUAL ALLOCATION - MWWD TRUNK SEWERS	5.9	2.0	3.5	3.5	3.5		18.4
MUNI	ANNUAL ALLOCATION - TRUNK SEWER REHABILITATIONS	1.6	8.9	3.5	21.3	39.0		74.3
MUNI	BALBOA TRUNK SEWER	0.1		0.1	7.2	3.9		11.3
MUNI	CHOLLAS VALLEY TRUNK SEWER	0.1						0.1
MUNI	EAST POINT LOMA TRUNK SEWER 2	0.1		3.2	17.3			20.6
MUNI	HARBOR DRIVE TRUNK SEWER REPLACEMENT	0.1	0.1	0.1	0.1	15.3		15.7
MUNI	LA JOLLA/PB TS - CHELSEA ST. RELOC	0.2						0.2
MUNI	LAKE MURRAY IN CANYON TRUNK SEWER	0.5			14.3			14.8
MUNI	MIRAMAR ROAD TRUNK SEWER	0.8						0.8
MUNI	MONTEZUMA TRUNK SEWER	0.1		14.4		2.8		2.9
MUNI	OTAY MESA TRUNK SEWER	0.5						14.9
MUNI	SORRENTO VALLEY TRUNK SEWER RELOC	3.2						3.2
MUNI	SOUTH MISSION VALLEY TRUNK SEWER	0.2		8.7	4.5			13.4
MUNI	SOUTH PACIFIC HWY TRUNK SEWER	0.7						0.7
MUNI	USIU TRUNK SEWER	1.3			0.1	4.3		5.7
	SUBTOTAL	\$15.4	\$11.0	\$33.5	\$68.3	\$68.8		\$197.0
METRO	TREATMENT PLANTS							
METRO	ANNUAL ALLOCATION - PT. LOMA TREATMENT PLANT & RELATED FACIL	1.3	0.8	0.8	0.8	0.8		4.5
METRO	ANNUAL ALLOCATION-METRO BIOSOLIDS CENTER	0.6	0.8	0.7	0.7	0.7		3.5
METRO	ANNUAL ALLOCATION-NORTH CITY WATER RECLAMATION PLANT	0.4	0.7	0.5	0.4	0.2		2.2
METRO	ANNUAL ALLOCATION-SOUTH BAY WATER RECLAMATION PLANT		0.2	0.2	0.2	0.2		0.8
METRO	METRO BIOSOLIDS CENTER	0.1						0.1
METRO	MBC BIOSOLIDS STORAGE SILOS	0.1	1.6	3.7	3.0	0.8		9.2
METRO	MBC ODOR CONTROL FACILITY UPGRADES	0.3		0.2	0.3	1.9		2.7
METRO	MBC STANDBY CENTRIFUGE FEED FACILITIES	0.1	1.0	4.0				5.1
METRO	MBC SWITCHGEAR RECONFIGURATION	0.1	0.2	1.1	0.3			1.7
METRO	MBC WASTEWATER FORCEMAIN EXTENSION	0.1	0.4	1.3	0.4			2.2
METRO	NORTH CITY RAW SLUDGE /PT. LOMA CATHODIC PROT.	0.1	0.2	0.7	0.3			1.3

FUNDING SOURCE		PROJECT TITLE		BOND REIMBURSEMENT				TOTAL	
METRO	NCWRP - EFFLUENT PUMP STATION UPGRADE			0.1	0.1	0.6		0.8	
METRO	NCWRP - ULTRAFILTRATION & EDR UPGRADE			0.3	0.7	0.8	0.3	2.1	
METRO	PT. LOMA - DIGESTER FACILITY UPGRADE	0.1						0.1	
METRO	PT. LOMA - DIGESTER S1 & S2 UPGRADE	0.6						0.6	
METRO	POINT LOMA - GRIT PROCESSING IMPROVEMENTS	1.7	0.3	3.3	14.2	14.9	34.4	0.6	
METRO	PT. LOMA SO. ACCESS RD PROTECTION	0.1						0.1	
METRO	SBWRP DEMINERALIZATION PHASE 1 & 2	0.1	0.1	0.5	1.1	8.8	10.6		
	SUBTOTAL	\$5.8	\$6.7	\$17.8	\$23.1	\$28.6	\$82.0		
	MUNI PUMP STATIONS								
MUNI	ANNUAL ALLOCATION - PS 64, 65, PENASQUITOS & E. MISSION GORGE	0.8	1.1	0.3		0.4	2.6		
MUNI	ANNUAL ALLOCATION - SEWER PUMP STATION RESTORATIONS	2.1	2.9	5.1			10.1		
MUNI	PUMP STATION 64 ELECTRICAL SYS UPGRADE	0.1					0.1		
MUNI	PUMP STATION 64 FIBER OPTIC NETWORK			0.8	0.7		1.5		
MUNI	PUMP STATION 84 UPGRADE & PUMP STATION 62 ABANDONMENT					2.0	2.0		
MUNI	PUMP STATION UPGRADES	0.3	2.6	1.3	5.6	3.4	13.2		
MUNI	SEWER PUMP STATION 79	0.9	1.6				2.5		
	SUBTOTAL	\$4.2	\$8.2	\$7.5	\$6.3	\$5.8	\$32.0		
	LARGE PUMP STATIONS								
METRO	ANNUAL ALLOCATION - METROPOLITAN SYSTEM PUMP STATIONS	3.5	1.0	0.3	0.3	0.4	5.5		
METRO	NCWRP - SLUDGE PUMP STATION UPGRADE			0.2	0.1	0.1	0.4		
METRO	OTAY RIVER PUMP STATION	0.1					0.1		
METRO	PUMP STATION 2 ONSITE STANDBY POWER	0.2	4.1	4.7			9.0		
	SUBTOTAL	\$3.8	\$5.1	\$5.2	\$0.4	\$0.5	\$15.0		
	OTHER PROJECTS								
MUNI	ANNUAL ALLOCATION - CIP CONTINGENCIES		2.5	2.9	4.5	3.9	13.8		
MUNI	ANNUAL ALLOCATION - DEVELOPER PROJECTS		0.6	0.7	0.7	0.7	2.7		
MUNI	ANNUAL ALLOCATION - MUNI FACILITIES CONTROL SYSTEMS UPGRADE					0.8	0.8		
METRO	ANNUAL ALLOCATION - METRO OPERATIONS CENTER	1.1	0.2	0.1	0.2	0.2	1.8		
METRO	MOC 7 DEMO & PARKING LOT	0.1					0.1		
METRO	ENVIRONMENTAL MONITORING & TECH SERVICES LAB	0.8					0.8		
METRO	ENVIRONMENTAL MONITORING & TECH. SERVICES LAB BOAT DOCK	0.7	2.0	2.3	3.7		2.7		
METRO	METRO FACILITIES CONTROL SYSTEM UPGRADE	0.7	5.2				11.9		
METRO	NORTH CITY RAW SLUDGE / POINT LOMA CATHODIC PROTECTION		0.4				0.4		
METRO	POOLED CONTINGENCY			0.2	0.6	0.6	1.4		
METRO	POOLED CONTINGENCY		0.6	0.7	0.5	0.5	2.3		
METRO	WASTEWATER OPERATIONS MGMT.						0.4		
METRO	WET WEATHER STORAGE FACILITY	0.4	0.4	0.7	3.5	1.3	5.9		
	SUBTOTAL	\$3.8	\$11.9	\$7.6	\$13.7	\$8.0	\$45.0		
TOTAL PROJECTS		\$53.4	\$75.9	\$130.3	\$191.7	\$196.7	\$648.0		

NOTE:
Project estimates are based on appropriations and include bond reimbursements.



Water Cost of Service Rate Study
Final Report

RFC
RAFTELIS FINANCIAL
CONSULTANTS, INC.

December 14, 2006



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Pasadena • CA • 91101

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December 14, 2006

Ms. Marsi Steirer
Deputy Director
City of San Diego
600 B Street, Suite 600
San Diego, CA 92101-4587

Subject: Water Cost of Service Rate Study Report

Dear Ms. Steirer:

Raftelis Financial Consultants, Inc. (RFC) is pleased to present this report on the water cost of service, rate design and capacity fee study (Study) to the City of San Diego (City). We are confident that the results developed based on the cost of service analysis will result in fair and equitable water rates to the City's users.

The Study involved a review of the City's financial plan or rate case and incorporation of the revenue requirements projected therein to develop cost of service rates. RFC reviewed the City's current user classifications and water rate structure. In addition, the Study also included an update of the City's capacity fees. The proposed changes to the City's rate structure and capacity fee are summarized below.

Rate Structure: Based on our review of the City's existing rate structure we propose the following:

- Classify customers into Single Family, Other Domestic (Multi-Family), Commercial/Industrial, and Irrigation/Construction based on their peaking characteristics. The proposed rates for the different classes are based on their peaking factors.
- Retain the three tiered rate structure for the Single Family customer class.
- Increase the amount of revenue to be collected from the variable commodity rates consistent with cost of service.

- Adjust meter rates for large meters in proportion to the cost of providing service.

Capacity Fee: Based on our review of the City's existing capacity fee, we estimate a full-cost-recovery capacity fee of \$3,047 per EDU.

It was a pleasure working with you and we wish to express our thanks to Mr. Sam Gray and other staff members of the Water Department for the support and cooperation extended throughout the study. If you have any questions, please call me at (626) 583-1894.

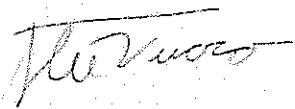
Sincerely,

Raftelis Financial Consultants

A handwritten signature in black ink, appearing to read "Sudhir Pardiwala".

Sudhir Pardiwala

Project Manager

A handwritten signature in black ink, appearing to read "Steve Vuoso".

Steve Vuoso

Consultant

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SECTION 1: EXECUTIVE SUMMARY

The City of San Diego (City) wished to conduct a comprehensive water cost of service and rate design study (Study) that included a review of revenue requirements, user classifications, costs of service, and the design of a system of user charge alternatives for the City's water service. In addition, the City also desired a review of its water capacity fees. This report documents the results of the Study, and suggests changes to user classifications, cost allocations and capacity charges which will serve to increase equity in the apportionment of costs during Fiscal Year 2008 and beyond.

The focus of this Study is primarily on the City's retail water service. The specific objective of this Study is to develop cost of service water rates that charge customers in proportion to the cost of serving them. The elements of this study include:

- Review of the costs of providing water procurement, treatment, and distribution to the City's users.
- Determination of the cost to provide service to the City's retail service area.
- Allocation of the cost of service to the water parameters of Base, Maximum Day, Maximum Hour, Meters and Services, Billing and Collecting, and Fire Protection.
- Allocation of parameter costs to the City's retail service user classes.
- Design of an equity enhancing system of charges including water user charges and capacity fees (discussed in the full report).

This section presents the cost of service review findings and suggested changes in summary form.

1.1 WATER SYSTEM

This section of the Executive Summary provides a brief description of the water system, a review of the revenue requirements and user classifications, an analysis of cost of service, and the design of water rates.

System Infrastructure: The City has managed and operated the water system since 1901 after purchasing the privately owned San Diego Water and Telephone Company. Since then the system has been expanded to supply approximately 270,000 accounts at the start of FY 2007, delivering approximately 240,000 acre-feet of water per year.

The City system consists of nine raw water storage facilities, three water treatment plants, 30 treated water storage facilities and over 3,460 miles of water lines. One of the nine raw water storage facilities, Lake Hodges Reservoir, is not currently connected to a treatment. The City owns and operates three water treatment plants with a combined current capacity of 294 million gallons per day (MGD). The 30 treated water storage facilities ensure consistent delivery to the 90 different pressure zones with the aid of 49 water pump stations.

While the City has grown, local water sources have remained static. On average, between 6 percent and 10 percent of the City's water supply is derived from local water sources. The balance of the City's water supply is purchased from the San Diego County Water Authority (CWA). These purchases from the CWA include treated water that is delivered to the City's water distribution system and raw water that is transported to the City's water treatment plants.

The 1997 Strategic Plan for Water Supply called for the doubling of water savings, from 13,000 acre-feet per year (AFY) to 26,000 AFY by 2005. This was to be accomplished by continuing successful water conservation programs. The City achieved its 2005 goal, and estimated a total of 30,350 AFY savings by the end of Fiscal Year 2006. (30,350 AFY is equal to 27.1 million gallons per day (MGD) of water saved. When compared to 11.6 mgd savings in 1997, the increase equates to 15.5 mgd. These efforts, along with proposed projects for cutting edge technologies such as brackish water desalination, are intended to provide the City with a reliable water supply that is less dependent on imports.

User/Usage Characteristics: The City has various types of customers, which are displayed in Figure ES-1. As expected, Single Family Residential makes up the bulk of City customers at approximately 80% of the meters. Other Domestic (Multi-Family) is the next largest class with more than 10% of the meters.

Figure ES-1 – Customer Makeup by Meters (as of 7/1/2006)

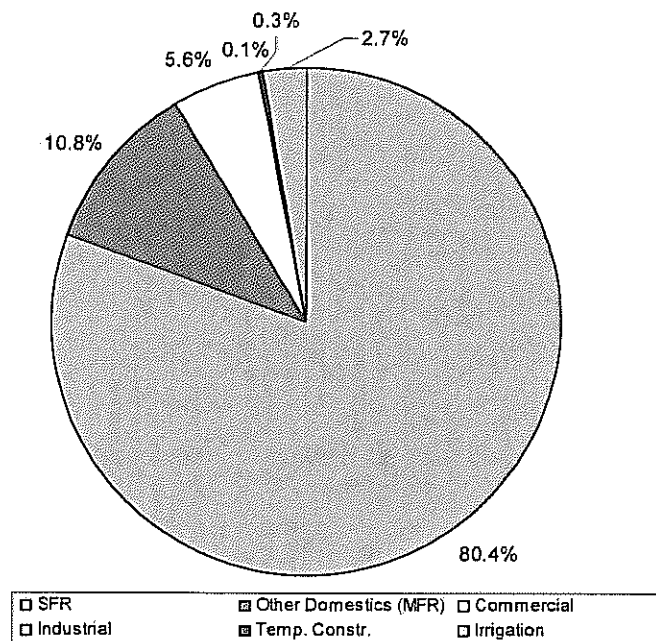


Table ES-1 provides information pertaining to the water usage associated with the various customer types. Single Family Residential, having a tiered rate structure, is further broken down by water usage within each rate block.

Table ES-1 – Projected Annual Water Usage by Class for FY 2008

Usage by Class	HCF	% of Total
SFR Blocks		
0 - 7	15,620,416	17.1%
8 - 14	8,943,800	9.8%
Over 14	9,915,197	10.8%
Total SFR	34,479,413	37.7%
Other Domestic (MFR)	20,519,164	22.4%
Commercial	22,207,400	24.3%
Industrial	1,613,743	1.8%
Temp. Construction	346,667	0.4%
Irrigation	12,294,791	13.4%
Total Non-SFR	56,981,765	62.3%
Total	91,461,178	100.00%

1.2 REVIEW OF REVENUE REQUIREMENTS

The City's principal source of operating revenues is revenue from rates. The primary sources of funding for capital improvements include water capacity fees, bond proceeds, grants, loans, pay-as-you-go revenues, and interest earnings.

The City estimates overall annual water Operation and Maintenance (O&M) expenditures in the range of \$279 - \$308.2 million during the study period from FY 2008 through FY 2011. This includes water purchase costs ranging from \$120 to \$124 million for the same period. Existing debt service on outstanding revenue bonds requires annual payments in the range of \$52 to \$56 million. For purposes of this analysis, the City is expected to issue additional debt of \$538 million (this excludes the portion due to interim financing) in FY 2008 and FY 2010 combined, which will add \$25 million in annual debt service by FY 2011. The proceeds from these revenue bond issues will help finance the water Capital Improvement Program (CIP) estimated at approximately \$600 million for the study period.

The total FY 2008 revenue requirements from the City's retail users—which is generated by totaling O&M, debt service, and cash-financed capital projects and deducting any revenue from other non-rate sources—is estimated to be \$287.4 million, of which approximately \$219.8 million are operating costs. The remaining \$67.6 million are capital-related costs related to debt service and cash-financed capital projects. In order to meet projected revenue requirements and to maintain desired operating funds, the following annual revenue adjustments are recommended. These revenue requirements are used to develop the fixed meter charges and commodity rates in a manner consistent with cost of service principles.

FY 2008	FY 2009	FY 2010	FY 2011
6.5%	6.5%	6.5%	6.5%

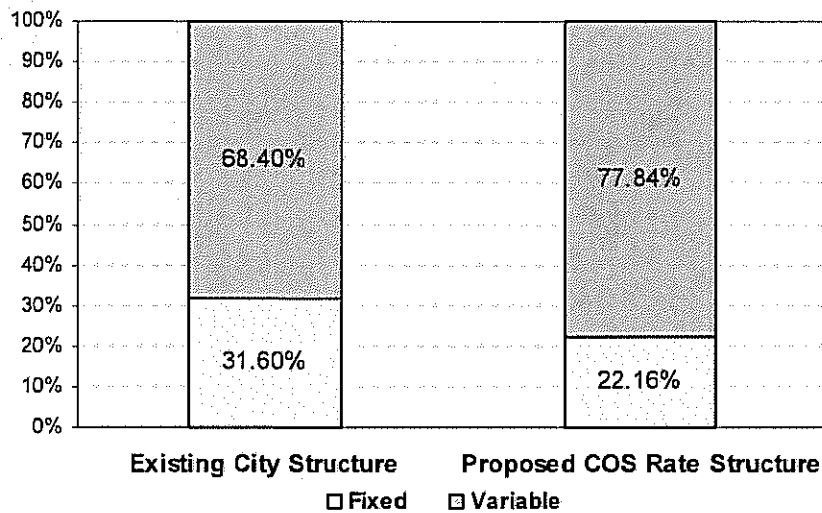
1.3 COST OF SERVICE

Cost of service (COS) is a methodical process by which revenue requirements are used to generate a system of fair and equitable costs in proportion to the service received for each user class. The cost of service allocations conducted in this study are based on the base-extra capacity method endorsed by the American Water Works Association (AWWA), a nationally recognized industry group. The other method endorsed by the AWWA, the commodity-demand method, is more suitable for agencies with a number of large wholesale customers. Under the base-extra capacity method, revenue requirements are allocated to the different user classes proportionate to their use of the water system. Allocations are based on average day (base), maximum day peak (Max Day) usage, maximum hour peak (Max Hour) usage, meters and services, billing and collection, and fire protection. Use of this methodology results in an AWWA accepted cost distribution amongst customer classes and a means of calculating and designing rates to proportionately recover those costs.

There is some flexibility in the design of the rate structure to meet the City's pricing objectives while being consistent with cost of service principles. In order to meet the City's pricing objective of revenue stability and to prevent the percentage of fixed revenue from dropping to an undesirable level, capital costs related to peaking capacity were allocated to the meter charge component of the monthly fixed charge. These costs represent the standby costs related to providing peaking capacity in the system. This practice is consistent with cost of service principles and accepted rate setting methodologies. The City's projected fixed revenue for FY 2008 under existing rate structure is approximately \$90.7 million. Under the proposed COS-based rate structure, the fixed revenue is projected to be \$63.7 million.

There are positives and negatives associated with the decrease in fixed revenue. Typically, a larger percentage of fixed rate revenue results in greater revenue stability since a greater percentage of total revenues are not influenced by fluctuations in consumption due to the weather. At the same time, the decrease in fixed revenue will improve equitability concerning cost recovery in that users who use limited amounts of water, and therefore place smaller demands on the system, will pay lower bills. Figure ES-2 reflects the percentage breakdown of fixed and variable revenue under City and the proposed COS rates for FY 2008. The remaining years of the study should be consistent with these percentages. Any changes in consumption patterns could potentially impact the rate revenue composition, but these deviations would most likely be negligible with respect to revenue stability.

Figure ES-2 – Rate Revenue Composition FY 2008



1.4 RATE DESIGN

The City's water rates, effective as of July 1, 2006, include fixed service charges and water commodity rates as shown in Figure ES-2. The service charges are consistent across all user classes and vary by meter size. Current service charges range from \$15.87 per month for a 3/4 inch meter which is typically used by Single Family Residential (SFR, also referred to as Single Family Domestic by the City) customers to \$6,514.14 per month for a 16 inch meter used by large industrial or wholesale customers.

The City has two main user classes: Single Family Residential, and all remaining customers. The commodity rates vary by user class. SFR Customers are billed on a three-block increasing rate structure. The remaining customers are charged a uniform rate of \$2.003 per hundred cubic feet (HCF) of water used. California-American Water Company (Cal-Am) and certain Agricultural customers have contractually negotiated rates which will not be reviewed under the scope of this study.

The rates presented in this Study incorporate AWWA recommended methodologies adapted to meet the City's specific characteristics and provide for a system of user charges that will enhance the proportionate recovery of costs from the various user classes. Rates are designed to meet the City's pricing objectives consistent with cost of service principles.

1.5 STUDY RECOMMENDATIONS

This section of the Executive Summary outlines our observations and suggestions with respect to changes which will enhance equity in the apportionment and recovery of costs. These changes include modifications to user classifications, cost allocations, and water rates.

1.5.1 Optional User Classification

The City's existing user classification scheme is adequate to support a rate structure that fairly and equitably recovers costs. However, the City may wish to consider establishing the following user classes based on their peaking characteristics:

- SFR
- Other Domestic (Multi-Family)
- Commercial and Industrial
- Irrigation and Construction

These customers' classes can then be charged unique cost of service based commodity rates that more accurately reflect and recover the cost of serving these customer classes.

1.5.2 Rate Design Changes

Raftelis Financial Consultants (RFC) suggests the continued use of a rate structure that includes both a fixed monthly service charge and a variable water usage charge. The proposed COS rates have been designed to fairly and equitably recover the costs of providing water service to each customer class in proportion to their use of the water system and are consistent with the requirements of Proposition 218.

Service Charge: RFC suggests that the City continue to utilize a monthly service charge which is consistent for all users of similar sized meters. The cost elements to be recovered in the service charge include costs based on capacity such as:

- Maintenance of meters and services
- A portion of capital costs allocated to provide peaking capacity
- Public fire protection (hydrants) and costs that are independent of meter size such as:
- Meter reading
- Customer billing and collection

The service charges for larger meters currently used by the City are higher than those derived from the application of industry standards. RFC therefore suggests that the City consider revising service charges to more proportionately recover its costs of providing service. A list of the City's projected 2008 rates and alternative COS service charges is shown in Table ES-2. The reduced revenue from service charges results in slightly higher commodity rates to maintain full cost recovery. Use of proposed COS based service charges would result in a reduced bill for some Single Family Residential (SFR) Customers, which would benefit low volume water users.

Table ES-2 - Rate Alternatives

Meter Size inches	Service Charge					
	2007	2008	2008	2009	2010	2011
	<u>Existing</u> \$/month	<u>City</u> \$/month	<u>Proposed</u> \$/month	<u>Proposed</u> \$/month	<u>Proposed</u> \$/month	<u>Proposed</u> \$/month
5/8	15.87	16.90	15.18	16.17	17.22	18.34
3/4	15.87	16.90	15.18	16.17	17.22	18.34
1	17.11	18.22	22.17	23.61	25.15	26.78
1 1/2	75.41	80.31	38.13	40.61	43.25	46.06
2	116.24	123.80	58.09	61.87	65.89	70.17
3	414.73	441.69	104.98	111.80	119.07	126.81
4	692.00	736.98	171.83	183.00	194.89	207.56
6	1,542.72	1,643.00	337.46	359.39	382.76	407.63
8	2,081.78	2,217.10	537.01	571.92	609.09	648.68
10	2,793.63	2,975.22	770.49	820.57	873.91	930.71
12	3,892.44	4,145.45	1,435.00	1,528.28	1,627.61	1,733.41
16	6,514.14	6,937.56	2,499.62	2,662.10	2,835.13	3,019.42

Customer Class	Commodity Rate					
	2007	2008	2008	2009	2010	2011
	<u>Existing</u> \$/HCF	<u>City</u> \$/HCF	<u>Proposed</u> \$/HCF	<u>Proposed</u> \$/HCF	<u>Proposed</u> \$/HCF	<u>Proposed</u> \$/HCF
<u>SFR</u>						
0 - 7	1.731	1.844	2.262	2.409	2.566	2.732
7-14	2.163	2.304	2.461	2.621	2.791	2.973
Over 14	2.372	2.526	2.775	2.955	3.147	3.352
<u>General Service</u>						
Other Domestics (MFR)	2.003	2.133	2.461	2.621	2.791	2.973
Commercial & Industrial	2.003	2.133	2.357	2.510	2.673	2.847
Temp. Constr. & Irrigation	2.003	2.133	2.524	2.688	2.863	3.049

Commodity Rates: The costs of water service not recovered through the service charges are recovered in the commodity rates. RFC suggests the City consider implementation of separate commodity rates for Single-Family Residential; Other Domestic; Commercial and Industrial; and Irrigation and Construction customer classes. Table ES-2 presents a summary of the City's projected 2008 and alternative rate schedules for FY 2008 and beyond.

Single-Family Residential Commodity Rate: Since SFR is more homogenous than other customer classes, a tiered rate structure that equitably recovers costs of providing service and promoting conservation can be designed relatively easily. RFC suggests that the City continue utilizing its tiered rate structure for SFR customers. The lower rates for the first tier are justified because smaller users typically put smaller demands on the system and are credited for a portion of the capital costs allocated to peaking.

All Other Customers' Commodity Rates: For Other Domestics; Commercial and Industrial; and Irrigation & Construction customer classes, RFC suggests that the City implement the different class-based uniform commodity rates shown in Table ES-2. These proposed rates reflect the estimated peaking demands of each class and provide a greater correlation between costs and revenues.

1.5.3 Rate Impact

The main objective of this Study is to present options that will result in a proportionate allocation of costs to all user classes in proportion to the costs of serving these customers. The suggested revisions to service charges and commodity rates are designed to meet that objective.

The cost of service analysis indicates that under the current (2007) system of rates and charges, some users have been paying less for their proportionate demand for water services while others have been contributing more. However, the differences between revenue and cost are small and suggest that overall costs are being recovered in an equitable manner among customer classes.

This study reassigns revenue requirements among the various user classes to calculate the proposed COS rates. Table ES-3 presents a comparison of the distribution of projected revenue (FY 2008) and cost among customer classes. As you can see, revenues by class closely match costs by class. The biggest difference between revenue and cost is in the SFR class, where 42.1 percent of revenue and 44.2 percent of costs are contributed by single family users. Table ES-3 indicates that based on COS, 2.16 percent more revenue should be recovered from SFR customers than under current rates. Less revenue should be recovered from other domestics, commercial, industrial, temporary construction and irrigation customers.

Table ES-3 Projected Cost Distribution vs. Revenue FY 2008

Line No.	Customer Class	<u>Revenue</u> <u>Distribution</u> <u>Under Existing</u> <u>Rate Structure</u>	<u>Cost</u> <u>Distribution</u> <u>Under</u> <u>Proposed Rates</u>	<u>Difference</u>
1	SFR	42.1%	44.2%	2.16%
2	Other Domestics (MFR)	21.8%	21.1%	-0.76%
3	Commercial	21.6%	20.6%	-1.06%
4	Industrial	1.4%	1.4%	-0.04%
5	Temp. Constr.	0.8%	0.5%	-0.27%
6	Irrigation	12.3%	12.2%	-0.03%
7	Total	100%	100%	0.0%

The impacts discussed in this paragraph compare rates under the City 2008 and the proposed COS based rate structures. Under the proposed COS-based rates, most large volume SFR users will receive higher bills, while most low volume users will experience a reduction in monthly bills. Higher volume SFR users will experience these increases due to the higher usage rates that accompany and offset reduced service charges. At the same time, COS rates will encourage conservation and provide low-volume users with material rate relief. General Service customers

will, depending on relative levels of water usage, receive bills which are higher, lower, or about the same as under the 2007 rate structure due in large part to reductions in the meter based service charge. While the suggested changes lead to increases in water bills for some large volume users and decreases for others, they result in a cost recovery that is proportionate to use.

As stated, different customer classes will be impacted by the rate adjustments differently. An analysis of the City's customer meter size and water usage characteristics provides guidance in understanding the impact of the rate adjustments.

Table ES-4 below shows the monthly bills given varying levels of usage for the relevant customer classes under the four different scenarios: 2007 Existing, 2008 City, and 2008-2011 Proposed COS. User classes with identical rates were grouped together.

Table ES-4 – Monthly Bill Calculations

	FY 07	FY 08	FY 08	FY 09	FY 10	FY 11
SFR - 3/4"	Existing	City	Proposed	Proposed	Proposed	Proposed
HCF/Month	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.
2	19.33	20.59	19.70	20.98	22.35	23.80
4	22.79	24.28	24.23	25.80	27.48	29.27
6	26.26	27.96	28.75	30.62	32.61	34.73
8	30.15	32.11	33.48	35.65	37.97	40.44
10	34.48	36.72	38.40	40.89	43.55	46.38
12	38.80	41.32	43.32	46.13	49.13	52.33
13*	40.97	43.63	45.78	48.76	51.92	55.30
14	43.13	45.93	48.24	51.38	54.72	58.27
16	47.87	50.98	53.79	57.29	61.01	64.98
18	52.62	56.04	59.34	63.20	67.31	71.68
20	57.36	61.09	64.89	69.11	73.60	78.39

*Average Usage

The median monthly household income in the City is \$5,173 (annual income of \$62,085) as of 2005. A \$45.78 water bill—the SFR bill assuming average usage and Proposed FY 08 rates—represents less than one percent (1%) of monthly median household income. By EPA guidelines, bills of less than two percent (2%) of median housing income are deemed affordable.

Table ES-4 – Monthly Bill Calculations (cont.)

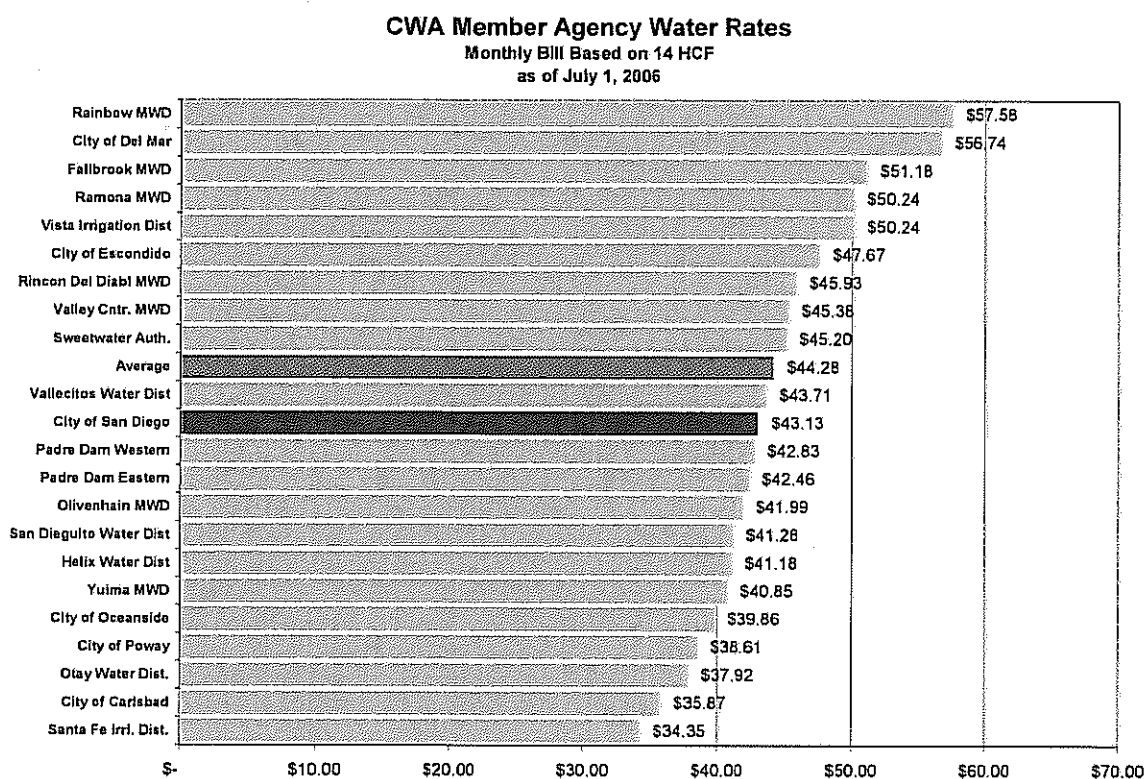
Other Domestic (MFR) 3/4"	FY 07 Existing	FY 08 City	FY 08 Proposed	FY 09 Proposed	FY 10 Proposed	FY 11 Proposed
HCF/Month	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.
20	55.93	59.57	64.39	68.58	73.03	77.78
40	95.99	102.23	113.60	120.99	128.85	137.23
60	136.05	144.89	162.81	173.40	184.67	196.67
80	176.11	187.56	212.03	225.81	240.48	256.12
100	216.17	230.22	261.24	278.22	296.30	315.56
120	256.23	272.88	310.45	330.63	352.12	375.01
140	296.29	315.55	359.66	383.04	407.94	434.45
160	336.35	358.21	408.87	435.45	463.75	493.90
180	376.41	400.88	458.08	487.86	519.57	553.34
200	416.47	443.54	507.29	540.27	575.39	612.79

Commercial/ Industrial - 1 1/2"	FY 07 Existing	FY 08 City	FY 08 Proposed	FY 09 Proposed	FY 10 Proposed	FY 11 Proposed
HCF/Month	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.
50	175.56	186.97	155.98	166.12	176.91	188.41
100	275.71	293.63	273.82	291.62	310.58	330.77
150	375.86	400.29	391.67	417.13	444.24	473.12
200	476.01	506.95	509.52	542.64	577.91	615.47
250	576.16	613.61	627.37	668.14	711.57	757.83
300	676.31	720.27	745.21	793.65	845.24	900.18
350	776.46	826.93	863.06	919.16	978.90	1,042.53
400	876.61	933.59	980.91	1,044.67	1,112.57	1,184.89
450	976.76	1,040.25	1,098.75	1,170.17	1,246.24	1,327.24
500	1,076.91	1,146.91	1,216.60	1,295.68	1,379.90	1,469.59

Temp. Const / Irrigation - 2"	FY 07 Existing	FY 08 City	FY 08 Proposed	FY 09 Proposed	FY 10 Proposed	FY 11 Proposed
HCF/Month	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.	\$/Mo.
200	516.84	550.43	562.84	599.42	638.39	679.88
400	917.44	977.07	1,067.59	1,136.98	1,210.89	1,289.59
600	1,318.04	1,403.71	1,572.34	1,674.54	1,783.39	1,899.31
800	1,718.64	1,830.35	2,077.09	2,212.10	2,355.89	2,509.02
1,000	2,119.24	2,256.99	2,581.84	2,749.66	2,928.39	3,118.73
1,200	2,519.84	2,683.63	3,086.59	3,287.22	3,500.89	3,728.45
1,400	2,920.44	3,110.27	3,591.34	3,824.78	4,073.39	4,338.16
1,600	3,321.04	3,536.91	4,096.09	4,362.34	4,645.89	4,947.87
1,800	3,721.64	3,963.55	4,600.84	4,899.89	5,218.39	5,557.58
2,000	4,122.24	4,390.19	5,105.59	5,437.45	5,790.89	6,167.30

Figure ES-3 shows a comparison of the monthly bills for SFR customers using 14 HCF of water for the City and surrounding agencies. The chart reflects the City's current rates. The City's current charge is below the average for the region. Because rates for surrounding agencies in 2008 are unknown to the City, it is difficult to make a similar chart reflecting the bills under the City's proposed rate increases.

Figure ES-3 – Monthly Bill Comparison



1.5.4 Capacity Fees

Capacity (developer) fees are one-time fees used to recover some or all of the costs of providing the system capacity required when a new user connects to the water system. Examples of such costs include those related to increasing transmission and treatment capacity in treatment plants, storage reservoirs, pumping stations, and water mains. If capacity fees are insufficient to fully offset system capacity costs, shortfalls are offset using revenues derived from current system users' rates and charges.

The City currently charges \$2,550 per dwelling unit or its equivalent. The water used by an average SFR is equated to one equivalent dwelling unit (EDU) and equals 500 gallons per day (GPD). Non-residential customers are charged based upon calculated usage or an inventory of plumbing components that are assigned a number of "fixture units" which are converted to

EDU's using a conversion factor that equates 20 fixture units to one EDU. The minimum capacity assigned to any user is one EDU.

The City has a comprehensive Capital Improvement Program (CIP) planned for the study period. The CIP identifies the growth related and replacement portion of each project's cost. The growth related costs that benefit future users form the basis of the calculated capacity fee. The capital costs the City has incurred prior to 2006 and the future costs to be incurred over the next eight years were reviewed, the projects associated with these capital costs were examined, and the net capacity available from these projects was determined in order to derive a full-cost-recovery capacity fee. These projects include water supply, water mains, distribution mains, pumping stations, treatment plant, and reservoirs costs, etc., yielding a capacity fee of \$3,047 per EDU.

This fee represents the amount required to recover the costs associated with providing additional facility capacity to new users and existing users requiring additional capacity. The increase of approximately \$600 per EDU results primarily from an increase in capital expansion projects and the high inflation in capital costs in the last few years.

SECTION 2: INTRODUCTION

2.1 BACKGROUND

The City is planning significant capital improvements over the next few years to meet regulatory requirements and construct capital projects. To finance these capital projects the City needs to borrow money from the capital markets. In anticipation of going to the debt markets to procure the lowest cost funding, the City wants to conduct rate studies to ensure the financial viability of the water enterprise and ascertain that the rates are fair and proportional to the cost of serving customers.

The City retained Raftelis Financial Consultants (RFC) to conduct a comprehensive cost of service and rate design study that could be utilized to evaluate and enhance the user charges for the City's retail water service to ensure that there is a proportionate recovery of costs from the various user classes. This report documents the findings, analyses, and suggestions that are the result of that effort.

The City owns and operates a water system that provides water to an approximately 1.3 million people in the City of San Diego. The Water System provides service to residential, commercial, and industrial customers as well as four wholesale customers: California-American Water Company (Cal-Am), the City of Del Mar (Del Mar), and the Santa Fe and San Dieguito Irrigation Districts. In addition to existing reclaimed water customers such as the City of Poway and customers within the City, the City has an agreement to sell to the Otay Water District. The City operates the water system as a self-supporting enterprise, with revenues and expenditures accounted for separately from its other enterprise and General Fund activities.

2.2 OBJECTIVES

Several objectives should be considered in the development of a financial plan and in the design of rates. The major objectives of the study were:

- Ensure Revenue Sufficiency to meet the operation and maintenance (O&M) and capital needs of the City's water enterprise
- Plan for Revenue Stability to provide for adequate operating and capital reserves and the overall financial health of the water enterprise
- Maintain investment grade Financial Ratings so that debt issuance can be achieved at the lowest cost to ratepayers
- Provide for Fairness and Equitability in the development of a system of user charges
- Minimize Rate Impacts to reduce financial hardship on user classes and individual members of those classes
- Maintain simplicity for ease of administration and implementation as well as customer understanding and acceptance.

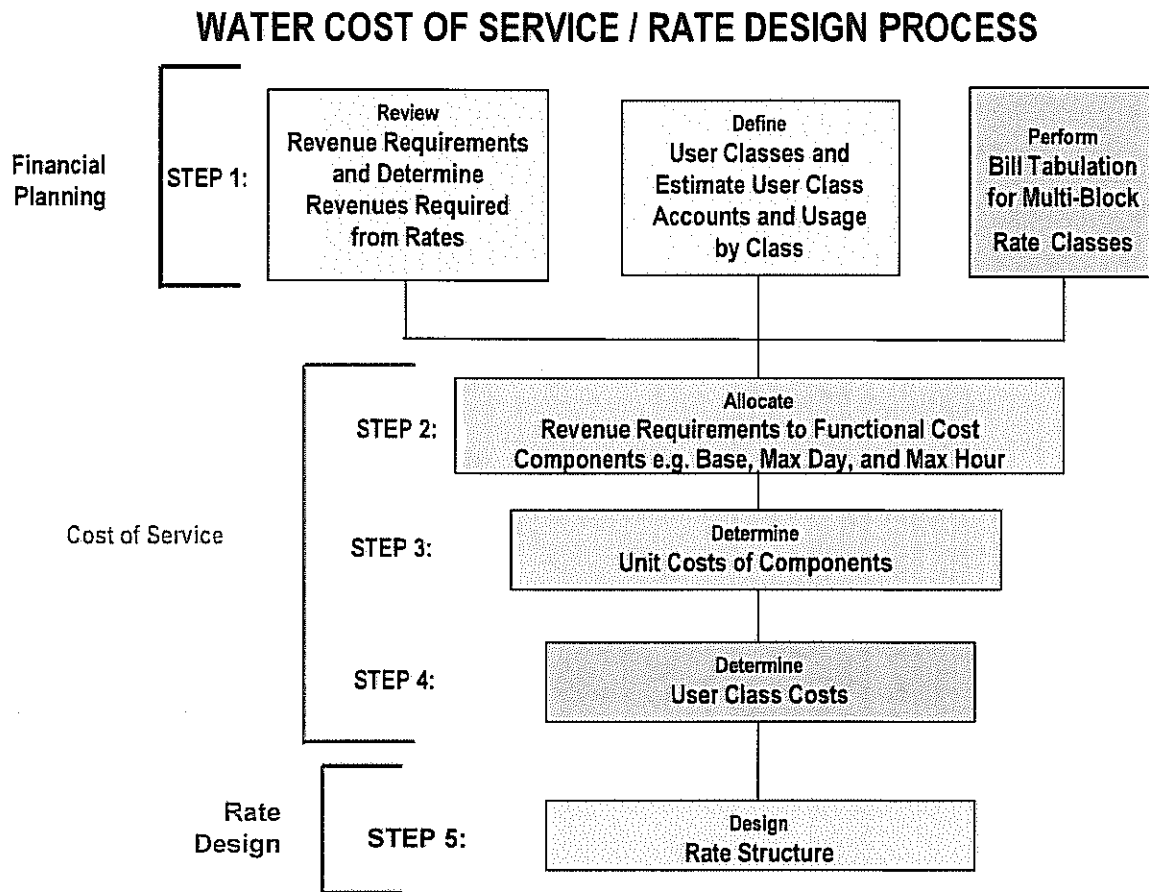
Some of these objectives are interrelated. This being the case, judgment plays a role in the final design of rate structures and rates.

2.3 SCOPE OF THE STUDY

The scope of this Study results in the development of cost based water user rates and capacity fees through a comprehensive cost of service and rate design study process. The comprehensive cost of service (COS) and rate design effort make up the first three major processes and the capacity fee development makes up the fourth. Figure 2-1 provides a graphical representation of the various steps involved in the comprehensive cost of service and rate design process. The four major processes are as follows:

- **Financial Planning:** User and usage data from the most recent fiscal year is compiled. The single family residential usage in the different rate tiers is analyzed to determine revenues that will be collected from this class. Operating and capital costs are compiled and revenue requirements are projected for a four-year period from FY 2008 through FY 2011. Financial planning involves estimation of annual O&M and capital expenditures, annual debt service and reserve requirements, operating and capital revenue sources and the determination of required annual user revenues from rates and charges.
- **Cost of Service Analysis:** Cost of Service Analysis involves identifying and apportioning annual revenue requirements to the different user classes proportionate to their demand on the water system.
- **Rate Design:** Rate Design involves the development of a fixed and variable schedule of rates for each of the different user classes to proportionately recover the costs attributable to them. This is also where other policy objectives can be achieved, such as discouraging wasteful water use.
- **Capacity Fee Development:** The capacity fee development component includes the determination of water infrastructure capacity, the associated costs required to accommodate new growth, and the design of one-time capacity fees for new users.

Figure 2-1 – Cost of Service / Rate Design Process



2.4 ASSUMPTIONS USED IN THE STUDY

The following assumptions are used in the study:

1. Annual O&M and capital expenditures, other revenue sources and reserve requirements, O&M inflation factors and user account growth projections are all based on the City's Fiscal Year 2007 rate case. The RFC rate model assumes that the unit price of purchased water will remain the same throughout the forecast period, based on the assumption that any CWA price increases will be passed through to customers as they occur, consistent with applicable provisions of the Municipal Code.
2. Annual water system accounts and volume data used in the Study are based on data from the *Customer Information System* provided by the City.
3. Hydraulic capacity ratios are based on rated capacity of meters as indicated in *AWWA M6 Water Meters - Selection, Installation, Testing and Maintenance*.

This Study report includes six sections in addition to the Executive Summary and the Introduction. A brief description of each section follows.

Section 3 describes the water system and 2007 rates for the various types of customers. In addition a description of contractual agreements between the City and various wholesale water providers is included.

Section 4 describes the existing and suggested user classifications.

Section 5 includes a discussion on water system revenues and expenditures, capital program financing including debt service, required annual revenue adjustments and the determination of annual revenues required from user rates.

Section 6 includes a detailed discussion on the Cost of Service. This includes allocation of costs to water parameters and the determination of unit costs.

Section 7 presents a discussion on alternative rate structures. This section also includes a detailed discussion on the merits of alternative rate structures and the expected impact on the different user classes.

Section 8 describes the methodology used in determining capacity fees for a single family residence.

SECTION 3: WATER SYSTEM

This section of the report presents a brief overview of the system, the relationship between the City and its wholesale customers that receive service from the City, and 2007 retail rates.

3.1 WATER SYSTEM

This is a brief description of the City's water system and the relationship between the City and wholesale customers that receive service from the City.

3.1.1 Water System Infrastructure

The City-owned water system provides water storage, potable, raw, and recycled water to approximately 270,000 retail and several wholesale customers at the start of FY 2007. Potable water is currently supplied by three water treatment plants with a combined rated capacity of 294 MGD. Supplemental treated supplies from CWA are used to meet peak demands in excess of this capacity. Upgrades to all three plants will increase future rated capacity to 455 MGD, thereby reducing the need for purchased treated water and providing capacity for customer growth.

In addition to the treatment plants, the water system also includes nine raw water storage facilities, 29 treated water storage facilities and more than 3,460 miles of transmission and distribution lines. A brief description of some of the major facilities is provided below.

Alvarado Water Treatment Plant (AWTP): The AWTP was originally constructed in 1951 with a capacity of 66 MGD. In the mid-1970's, it was expanded to 120 MGD and is currently undergoing further expansion. The AWTP is located next to Murray Reservoir near Interstate 8 and serves the general area from National City to the San Diego River. The Capital Improvement Program includes another upgrade to 200 MGD by 2011.

Miramar Water Treatment Plant (MWTP): The MWTP was originally constructed in 1962 with a rated capacity of 140 MGD. MWTP is located next to Miramar Reservoir off Interstate 15 and is still rated at 140 MGD. The MWTP serves the general area north of the San Diego River. The Capital Improvement Program includes an upgrade to the plant that will increase its rated capacity to 215 MGD by 2008.

Otay Water Treatment Plant (OWTP): The OWTP was originally constructed in 1940 and is currently rated at 34 MGD. The OWTP serves the general area along the Mexico border and portions of south central San Diego. The Capital Improvement Program includes an upgrade to the plant that will increase its rated capacity to 40 MGD by 2011.

Raw Water Reservoirs: The City averages less than 10 inches of rainfall per year. This limited precipitation recharges the local reservoirs. The Water Department maintains and operates nine local raw water reservoirs with a combined accessible capacity of 382,400 acre-feet (AF). Lower Otay, Barrett, and Morena Reservoirs (137,700 AF) service the OWTP. El Capitan, San Vincent, Sutherland and Lake Murray Reservoirs (237,500 AF) service the AWTP, and Miramar Reservoir (7,200 AF) services the MWTP. The ninth reservoir, Lake Hodges (33,600 AF), is not connected to the City's water treatment facilities. These facilities maintain minimum storage levels sufficient for approximately 7 months demand at restricted usage levels. The City purchased approximately 200,000 AF during 2006, of which approximately 12 percent was

treated. As populations increase water purchases from CWA will increase and the City will be able to utilize increased treatment capacity to minimize potable water purchases.

Water Delivery: The system contains over 3,400 miles of pipelines ranging in size from 4 inches in diameter to pipes big enough for most professional basketball players to walk in (84"). The system utilizes 45 pump stations to maintain pressure in 90 different pressure zones to provide service to the City's customers.

3.2 RATE STRUCTURE

The City's water rate structure for all retail user classes includes a fixed service charge and a commodity rate. While the service charge is charged to each water meter and varies with meter size, the commodity rate is applied to a customer's water usage. The City's FY 2007 rates for the various user classes are shown in Table 3-1.

3.2.1 Service Charges

The FY 2007 service charges are shown in Table 3-1 below. The typical SFR user has a 5/8 inch or 3/4 inch meter and pays \$15.87 per month. Customers with larger demands need larger meters. Larger meters are more expensive to maintain and replace, so under AWWA methodology larger meters are charged higher monthly service charges. The City's current service schedule shows larger meters being charged significantly more than smaller meters when compared to the AWWA methodology as determined by the ratios of the meter capacities. For example, an eight inch meter has a capacity of 1,600 gpm compared to 30 gpm for a 3/4-inch meter. The ratio of the capacities is 53.3. The ratio of the charges is 131.1 which is significantly higher than the 53.3 hydraulic capacity ratio. Refer to Appendix A for further explanation of meter capacities.

Table 3-1 - Summary of 2007 Rates

Service Charge		Commodity Rate		
Meter Size inch	2007 Existing \$/month	Customer Class	Volume Block HCF	2007 Existing \$/HCF
5/8	15.87	<u>Single Family Residential</u>		
3/4	15.87	Block 1	0 - 7	1.731
1	17.11	Block 2	8 - 14	2.163
1 1/2	75.41	Block 3	Over 14	2.372
2	116.24			
3	414.73	Other Domestics	All Volume	2.003
4	692.00	Commercial	All Volume	2.003
6	1,542.72	Industrial	All Volume	2.003
8	2,081.78	Temp. Constr.	All Volume	2.003
10	2,793.63	Irrigation	All Volume	2.003
12	3,892.44			
16	6,514.14			

3.2.2 Commodity Rates

The City currently has separate commodity rates for Single Family Residential (SFR) customers. The remaining retail customers (Other Domestic, Commercial, Industrial, Temporary Construction, and Irrigation) are billed under the same uniform commodity rate.

SFR customers are billed on a three-block increasing rate structure. SFR customers using 7 hundred cubic feet (HCF) or less per month are billed 1.731 per HCF. SFR customers using up to 14 HCF per month are billed \$1.731 per HCF for the first 7 HCF and \$2.163 for each HCF up to 14. For SFR customers using more than 14 HCF per month, all usage over 14 is billed at \$2.372 per HCF. The rate for each unit of consumption within each block increases as customers move from block 1 through to block 3; hence the name three-block increasing rate structure.

All other retail customers are charged a uniform rate of \$2.003 per HCF for all consumption. Since customers are so diverse, it is difficult to design multi-block rates that will equitably accommodate large and small customers so it is common in the industry to use a uniform rate. Despite the fact that these customers are billed at the same rate, we have tracked their costs separately by defining them as separate customer classes as explained in the next section.

SECTION 4: USER CLASSIFICATION

One of the major tasks in the cost of service and rate design process is the classification of the users of the water system and the determination of annual demand and peaking factors associated with each class. The classification of the City's users is discussed in this section of the report.

4.1 WATER USER CLASSIFICATION

Since the focus of this Study is the City's retail users, discussions on water user classification relates exclusively to the users within the City's service area. A review of the City's existing user classifications and alternative user classes is presented in the following subsections.

4.1.1 Existing City User Classifications

The City currently serves a population of nearly 1.3 million within the City's service area. In an ideal scenario, a utility with unlimited resources and perfect information could calculate and implement unique rates for every customer based on each customer's individual usage patterns and their unique costs. However, since in the real world it is costly and time prohibitive to separately track each customer's demands and costs, utilities group customers with similar characteristics into categories or user classifications so rates can be effectively calculated and implemented to recover utility costs in an equitable manner. The breakdown of the City's water user classes and the number of meters associated with each class at the start of FY 2007 are as follows:

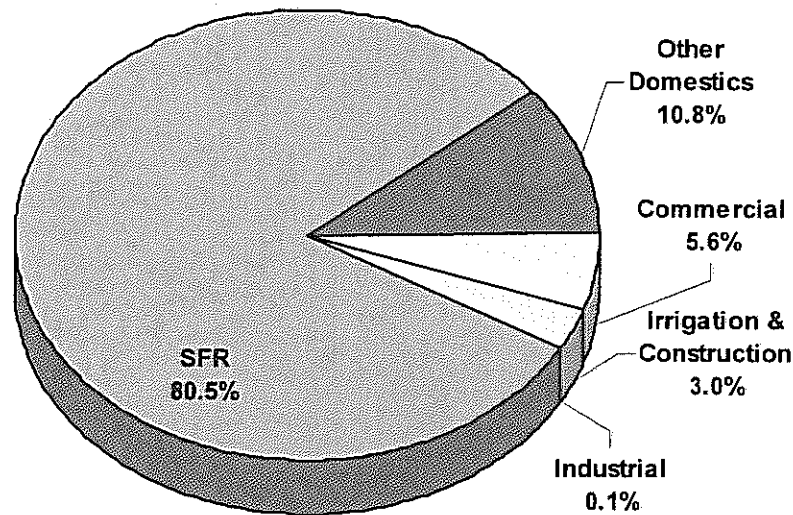
<u>User Class Description</u>	<u>Number of Meters</u>
Single Family Domestic (SFR)	217,625
Other Domestic (MFR)	29,329
Commercial	15,273
Industrial	243
Temporary Construction	777
Irrigation	7,421
Total	270,678

These are the classes that can be identified and isolated with the existing data in the City's billing system. The percentage distribution of the accounts is shown in Figure 4-1. Residential accounts (SFR and MFR) comprise over 91 percent of the total water user accounts serviced, and represent 56 percent of the water usage as shown in Figure 4-2. Note that some of the Single Family, Multi-Family, Commercial, and Industrial accounts have been classified as Irrigation as discussed below.

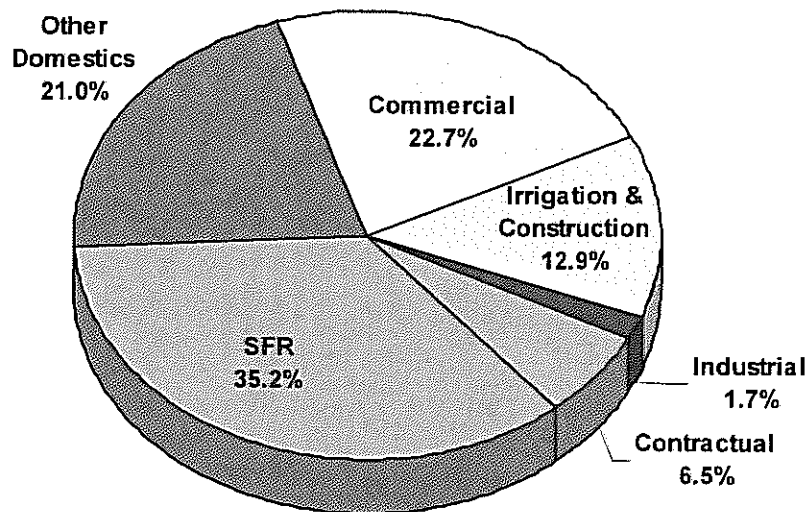
Residential Classification: The City's residential users are classified into SFR and Other Domestic classes. SFR refers to individual dwelling units served by a separate meter, whereas Other Domestic encompasses multi-family dwellings such as apartment or condominium complexes, in which two or more dwelling units share the same meter. These residential classes

are assumed to be homogenous in water usage and therefore are assigned the same peaking factors. However, usage and peaking will vary among the individual customers.

**Figure 4-1 – Projected Distribution of Water User Accounts
(Fiscal Year 2007)**



**Figure 4-2 – Projected Distribution of Water Usage
(Fiscal Year 2007)**



Commercial/Industrial Classification: Commercial and Industrial user classes are comprised of a diverse group of customers. The commercial and industrial user classes are essentially

“catch-all” categories. All customers that haven’t been otherwise classified are put into these categories. These customers are treated equivalently in cost calculations and are assigned the same peaking factors. These customers also typically have lower peaking factors than residential customers.

Irrigation: The City does not currently recognize “Irrigation” as a user class. However, there is sufficient data to separate these users into such a class. For purposes of Study analysis, such a class was created by separating the SFR, Other Domestic, Commercial, and Industrial accounts that are used solely for irrigation into a new class. Throughout the Study we have assumed that these Irrigation accounts are a separate user class for cost allocation and recovery purposes.

Temporary Construction: Temporary construction refers to meters that are placed on fire hydrants during construction in order to provide water to the construction site until a permanent metered service is installed. However, since the data is available, we have tracked these users as a separate class. Costs for these customers are usually higher than the average customer because administering a transient meter is more difficult than a fixed meter that is read by the same meter reader in the same place just as mass production is cheaper than unique production.

Irrigation & Construction users typically have high peak demands. This means that relatively large amounts of water are used in short periods of time when compared to average usage. Peak usage is more costly to deliver than constant usage because it requires more pumping and larger capacity facilities to produce and deliver the water demanded in a short time span.

4.1.2 Optional User Classifications

Based on peaking characteristics of different customer classes RFC recommends that customers be classified as the follows:

- Single Family Residential
- Multi-family Residential or Other Domestic
- Commercial and Industrial
- Irrigation and Construction

The justification for creating new user classes is to track costs and design separate rates for these customers as a means of increasing equity among ratepayers. The City currently has the data available to create new user classes and establish associated rates. The City currently has classified customers as SFR, Other Domestic, Commercial, Industrial, Temporary Construction, Irrigation, Agricultural and Wholesale user classes. Since all customers except SFR pay the same rate, they are essentially being treated as one user class, which could be referred to for discussion purposes as General Service. Agricultural and Wholesale user rates are established contractually so they are outside the scope of this rate study.

Residential customers, including SFR and Other Domestic are estimated to have similar peaking characteristics. However, since only SFR rates are tiered, they are separated into SFR and Other Domestic classes. Commercial and Industrial customers are estimated to have similar peaking characteristics and can be included into another class because they have lower peaking characteristics than residential customers. Temporary Construction demand characteristics are similar to those of Irrigation; both customers have higher peak demands than the other classes, therefore it is reasonable to consider creating a separate user class for them. This class is referred to as Irrigation & Construction.

Customers other than SFR vary considerably in size which makes it impractical and potentially inequitable to place them on a fixed multi-block rate structure. If such a multi-block rate structure is used, small customers would likely remain in the bottom block paying at the lowest rate, while large customers that may use water more consistently (and therefore cost less to serve than customers having higher peaking factors) would pay for the bulk of their water at the higher rates. Therefore tiered rates are not generally developed for these customers.

To maintain fairness and equitability, rates should be higher for customers with higher peak usage. This is the justification for a separate rate. For example, if Irrigation & Construction customers are charged a rate commensurate with the higher cost of providing them with service, doing so would reduce the burden on other customers and avoid potential cross-class subsidization.

Conservation inducement is the ultimate reason for creating an Irrigation user class. Non-agricultural irrigation is frequently discretionary in nature. This means that, in a time of shortage, irrigation is essentially a luxury. It is useful to track discretionary use separately in case mandatory reduction is needed, for example, in the case of a drought. Reduction in discretionary usage results in fewer detrimental effects than reduction in other types of usage. Therefore, if, during a drought, irrigation customers are identified separately, they can be targeted for conservation through conservation rates or programs. This can help reduce the need to cut back on other types of usage that can more severely impact the local constituents and economy.

SECTION 5: REVENUE REQUIREMENTS

A review of a utility's revenue requirements is a key first step in the rate design process. The review involves an analysis of annual operating revenues under 2007 rates, capacity fee revenues, operation and maintenance (O&M) expenses, capital expenditures, transfers between funds, and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M and capital expenditures, capital improvement financing plan, debt service requirements, and the revenue adjustments required to ensure the financial stability of the water enterprise. The water system revenues and expenditures are discussed from a City perspective and the discussion on required revenue adjustments relates exclusively to the City's users.

5.1 SYSTEM REVENUES

The City's Water Department operates the water system. The City derives its required annual operating and capital revenues from a number of sources. The principal sources of operating revenues from rates are the water service charges from the City's users which are expected to grow from \$279 million in FY 2007 to \$370 million by FY 2011. These revenue estimates include 6.5 percent annual rate increases in FY 2008 through FY 2011, but do not include pass through rate revenues. Other revenue sources include miscellaneous operating revenues such as reclaimed water sales, service charges, and other non-operating revenues including revenue transfers from the rate stabilization fund. Capital revenue sources include water connection fees, capacity fees, capital funds, bond proceeds, grants and loans, and interest earnings.

Reclaimed water revenues are expected to increase from \$4 to \$9.5 million over the study period due to new customers and increased demand from existing customers. Reclaimed revenues will continue to supplant revenues from potable water service charges as existing customers convert from potable to reclaimed water supplies. Revenues will also be lost as customers convert to reclaimed water since reclaimed water is priced below potable water. Reduced water purchases will further offset the revenue losses of conversion to reclaimed.

RFC reviewed the various sources of operating and capital revenues and the City's financing plan. Table 5-1 presents the details of the operating and capital related revenues. The table however does not reflect other available sources of funds such as bond proceeds and capital grant funds. Capacity revenues are based on proposed capacity fees. The comprehensive operating and capital flow of funds statements presented at the end of this section includes all these other revenues.

Table 5 - 1 Summary of Water Revenue

Line		Estimated	Projected			
No.	Description	2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$
	<u>Revenue from Rates</u>					
1	Revenue Under Existing Rates	278,601,800	280,955,700	282,626,200	284,666,200	287,281,900
2	Revenue from Rate Increases	-	18,262,100	37,935,500	59,196,200	82,296,500
3	Total Revenue from Rates	278,601,800	299,217,800	320,561,700	343,862,400	369,578,400
	<u>Other Operating Revenues</u>					
4	Reclaimed Revenue	4,012,000	7,013,382	7,832,539	8,304,302	9,472,200
5	Fire Service and Auto. Sprinkler Svc.	1,493,333	1,498,111	1,503,815	1,498,420	1,500,115
6	Backflow Charges	482,333	470,111	470,148	474,198	471,486
7	Service Charge	1,375,000	1,401,125	1,427,746	1,454,874	1,482,516
8	Subtotal Other Operating Revenues	7,362,700	10,382,700	11,234,200	11,731,800	12,926,300
	<u>Miscellaneous Revenues</u>					
9	Land and Building Rentals	4,252,000	4,332,788	4,415,111	4,498,998	4,584,479
10	New Water Services	2,402,000	2,447,638	2,494,143	2,541,532	2,589,821
11	Services Rendered to Others	10,762,382	10,966,867	11,175,238	11,387,567	11,603,931
12	Other Revenue	393,813	401,295	408,920	416,690	424,607
13	Lakes Recreation	1,340,611	31,300	31,895	32,501	33,118
14	Subtotal Miscellaneous Revenues	19,150,806	18,179,900	18,525,300	18,877,300	19,236,000
15	<u>Other Income</u>					
16	Damages Recovered	290,200	295,714	301,332	307,058	312,892
17	Sale of Land	3,213,413	115,000	115,000	115,000	115,000
18	Subtotal Other Income	3,503,613	410,714	416,332	422,058	427,892
19	Interest Income	8,744,400	21,201,700	13,548,700	22,393,200	15,716,000
	<u>Capacity Charge Revenue</u>					
21	Capacity Charges	12,457,000	14,291,979	14,452,666	14,575,633	14,406,520
22	Total Revenues	329,820,319	363,684,792	378,738,898	411,862,391	432,291,111

5.2 SYSTEM EXPENDITURES

For sound financial operation of the City's water system, the revenues generated must be sufficient to meet the revenue requirements or cash obligations of the system. Revenue requirements include water purchase costs, O&M expenses, capital improvement program (CIP) expenditures, principal and interest payments on existing debt, and other obligations.

For the purposes of this study we have divided capital projects into two distinct categories: Replacement and Expansion. Replacement capital projects are projects that will improve or replace existing facilities that serve existing customers. Expansion capital projects are projects that will increase the capacity or ability of the system to provide service to new customers. Projects are categorized in this manner because capacity charge revenues are reserved for expansion related costs and therefore cannot be used for Replacement projects. This type of accounting ensures compliance with California Government Code Sections 66000 et seq., commonly referred to as "AB 1600." Section 8 explains this in more detail.

5.2.1 Operation and Maintenance Expenses

O&M expenditures include the cost of operating and maintaining water supply, treatment, storage, and distribution facilities. O&M expenses also include the costs of providing technical

services such as laboratory services and other administrative costs of the water system such as meter reading and billings. These costs are a normal obligation of the system, and are met from operating revenues as they are incurred. The comprehensive forecasted annual O&M expenditures for the study are based upon the City's budgeted FY 2007 expenditures, adjusted for changes since the budget was developed and for anticipated changes in operations and the effect of inflation in future years. The City conservatively uses an inflationary factor of four percent in projecting all O&M expenditures, except for Salaries and Wages. Salaries and Wages are increased by 4% in FY08 but are not increased thereafter. Projected O&M expenditures for the study period are detailed in Table 5 -2.

Table 5 - 2 Summary of Operating Costs

Line No.	Description	Budget Year	Projected				
		2007	2008	2009	2010	2011	
		\$	\$	\$	\$	\$	
1	Water Purchase Costs	125,340,073	120,025,426	121,027,939	122,276,807	123,612,021	
2	Administration	16,040,642	17,638,691	18,245,734	19,531,784	20,216,367	
3	Customer Support	32,627,635	35,878,164	37,112,926	39,728,828	41,121,312	
4	Water Operations	73,207,771	88,063,275	90,476,588	100,489,521	103,370,233	
5	Engineering And CIP Management	8,863,795	9,746,851	10,082,293	10,792,943	11,171,232	
6	Water Policy And Strategic Planning	6,952,380	7,645,011	7,908,118	8,465,521	8,762,235	
7	Total O&M	263,032,296	278,997,419	284,853,598	301,285,404	308,253,399	

Water Purchases are tracked separately and vary from \$120 million to \$124 million in 2008 through 2011. Inventories are assumed to remain at current levels in the same period which allows for simplified forecasting. Water purchase costs are forecast to increase at an average of 0.9 percent over the study period compared to an anticipated 4 percent average increase in other operating costs. This can be attributed to the fact that conservation efforts and the reclaimed water program will partially offset the demand for additional potable water supplies. The unit price of purchased water is assumed to remain the same throughout the forecast period, reflecting the CWA price increases which go into effect in January, 2007. It is assumed that future CWA price increases will be passed through to customers as they occur, consistent with applicable provisions of the Municipal Code.

The operating financial plan is presented after discussion of the capital financing plan because it has impacts on the revenue requirements from rates.

5.2.2 Water Capital Improvement Program

The City has developed a comprehensive water Capital Improvement Program (CIP) to address current and future water system needs. As Table 5-3 indicates, the total estimated water CIP for the study period of FY 2008 to FY 2011 is \$585 million. These projected costs include a four percent annual inflation factor due to anticipated increases in construction costs over time. This inflation rate is a conservative estimate and ensures that the City has adequate resources reserved to complete the necessary projects.

Table 5 – 3: Summary of Projected Capital Improvement Program

Line No.	Description	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
1	Water Treatment Plants	71,312,495	47,600,699	29,499,980	3,389,671
2	Transmission Pipelines	9,782,916	17,109,888	4,620,633	38,476,636
3	Distribution Lines	31,200,000	43,280,000	45,102,614	46,933,049
4	Pump Stations	7,317,320	4,111,657	525,318	752,652
5	Treated Water Reservoirs	8,842,219	22,890,797	36,739,879	13,913,634
6	Reclaimed Water Facility	8,147,718	5,799,238	637,745	500,000
7	Miscellaneous	6,104,298	2,302,466	1,795,162	1,162,724
8	Contingencies	6,251,250	6,208,946	3,127,047	3,087,750
9	Raw Water Reservoirs	1,748,221	5,081,715	10,060,136	23,641,411
10	Program Management	4,000,000	4,000,000	4,000,000	4,000,000
11	Total	154,706,437	158,385,406	136,108,514	135,857,527

5.2.3 Major Capital Improvement Financing Plan

The CIP is to be funded through a combination of system revenues and bond financing. The CIP funding sources include the following:

System Revenues:

Capacity charges

Pay-as-you-go revenues

Capital Financing:

Bond proceeds

Grant receipts and Contributions

Interest earnings

The City has distinguished between repair and replacement and expansion CIP costs to properly apply revenue sources. New customers will benefit from capacity created by expansion projects. These projects will be funded by capacity charges and bond proceeds. Capacity charge revenues will range from \$14.3 to \$14.4 million over the study period of FY 2008 through FY 2011 at increased capacity fee levels, as detailed in Section 8.

Table 5-4 presents the proposed CIP financing plan to finance major CIP replacement projects over the four-year period from FY 2008 to FY 2011, and Table 5-5 presents the proposed CIP financing plan for major CIP expansion projects.

Table 5 – 4: Replacement Capital Financing Plan

Line		Estimated	Projected			
No.	Description	2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$
Sources of Funds						
1	Transfer from Operating Fund	23,202,300	14,971,700	25,550,800	11,011,200	51,431,600
2	Prior Year Encumbrances Cancelled	2,000,000	1,000,000	1,000,000	1,000,000	1,000,000
3	Continuing Appropriations	60,451,376	59,001,900	66,734,500	50,768,300	43,870,100
4	Proposed Revenue Bond	-	-	-	-	-
5	Proposed Revenue Bond to Replacement		187,712,053	-	193,390,120	-
6	Short Term Financing	30,795,171				
7	SRF Loan Receipts					
8	Grants Receipts	2,456,000	1,000,000	550,000	-	-
9	Grants Receivable/Reimbursable	(272,000)	(1,050,000)	(550,000)	-	(5)
10	Contribution in Aid	75,000	-	-	-	-
11	Total Sources of Funds	118,707,847	262,635,653	93,285,300	256,169,620	96,301,695
Uses of Funds						
12	CIP - Repair & Replacement	33,435,999	74,924,275	104,395,921	105,732,873	96,332,728
13	Capital Improvement Encumbrances	50,661,557	58,394,148	42,427,952	35,529,719	59,436,096
14	Continuing Appropriations	8,340,381	8,340,381	8,340,381	8,340,381	8,340,381
15	Subtotal CIP	92,437,937	141,658,804	155,164,254	149,602,973	164,109,205
16	Short Term Financing Repayment		31,395,676			
17	Bond Proceed Deductions	-	27,209,151	-	39,290,801	-
18	Total Uses of Funds	92,437,937	200,263,631	155,164,254	188,893,773	164,109,205
Fund Balance						
19	Net Annual Cash Balance	26,269,909	62,372,022	(61,878,954)	67,275,847	(67,807,510)
20	Beginning Fund Balance	(26,204,800)	65,109	62,437,131	558,177	67,834,024
21	Cumulative Fund Balance	65,109	62,437,131	558,177	67,834,024	26,514

Table 5 – 5: Expansion Capital Financing Plan

Line		Estimated	Projected			
No.	Description	2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$
Sources of Funds						
1	Capacity Charges	12,457,000	14,291,979	14,452,666	14,575,633	14,406,520
2	Proposed Revenue Bond		147,012,947	-	66,764,880	-
3	Short Term Financing	26,204,829				
4	SRF Loan Receipts	-	-	-	-	-
5	Grants/Contributions	1,887,000	-	-	-	-
6	Loan from Operating Fund	0	0	30,000,000	0	60,100,000
7	Interest Income	617800	7094500	836600	4746500	756500
8	Total Sources of Funds	41,166,629	168,399,426	45,289,266	86,087,013	75,263,020
Uses of Funds						
9	CIP - Expansion	28,452,015	79,782,162	53,989,485	30,375,641	39,524,799
10	Subtotal CIP	28,452,015	79,782,162	53,989,485	30,375,641	39,524,799
11	Short Term Financing Repayment		26,715,824			
12	Bond Proceed Deductions	-	21,309,753	-	13,564,527	-
13	Debt Service Payment	17,844,082	23,506,831	28,510,028	36,158,955	41,959,785
14	Total Uses of Funds	46,296,097	151,314,570	82,499,513	80,099,123	81,484,585
Fund Balance						
15	Net Annual Cash Balance	(5,129,468)	17,084,856	(37,210,247)	5,987,890	(6,221,565)
16	Beginning Fund Balance	26,204,829	21,075,362	38,160,218	949,971	6,937,861
17	Cumulative Fund Balance	21,075,362	38,160,218	949,971	6,937,861	716,295

5.2.4 Debt Service Requirements

Debt service requirements consist of principal and interest payments on existing debt. The City currently has debt service obligations associated with the outstanding 1998 Certificates of Undivided Interest, and 2002 Subordinated Water Revenue Bonds. Existing and anticipated debt service, including interim financing requirements, results in annual payments in the range of \$53 to \$81 million.

5.2.5 Debt Service Coverage

The City must meet debt service coverage requirements on its outstanding bond issues. Coverage requirements typically vary between 1.0 and 1.60 or higher. The 1998 Certificates of Undivided Interest, which are parity obligations, stipulate that the City's Adjusted Net System Revenues shall amount to at least 1.20 times the Annual Debt Service on all Parity Obligations Outstanding. The System Revenues include funds derived from the ownership and operation of the system including water service charges from the City's users, reclaimed revenue, service charges, capacity charges, revenues received from contracts, and transfers from the Rate Stabilization Fund or Secondary Purchase Fund to pay for O&M of the Water System. Annual Debt Service includes annual principal and interest payments on outstanding bonds.

5.2.6 Reserves

The City requires adequate cash reserves to meet operating, capital, and debt service requirements. Debt service reserves or restricted reserves provide protection from defaulting on annual debt service payments in times of financial difficulty. One year of debt service payments is required in reserve, so each time the City issues new bonds, additional proceeds are added to the restricted reserve. The current reserve is \$40.7 million and will be increased in FY 2008 and FY 2010 by \$23.5 million and \$18.7 million, respectively, in order to maintain adequate reserves.

Operating reserves may be used to meet ongoing cash flow requirements as well as emergency requirements. Typically, a balance in the range of 10 to 50 percent of annual operating expenses is considered appropriate. This represents one to six months of working capital. The City currently maintains a minimum 45-day operating reserve, but has recently decided to move toward a minimum 70-day operating reserve. The minimum operating reserves are shown in Table 5-6. Interest from reserve funds may be used to finance operations.

The City also has other reserves. The Secondary Purchase Reserve is similar in function to the operating reserve. The Secondary Purchase Reserve is a reserve for water purchases. It is set at 6 percent of total water purchases in order to ensure that enough revenue is on hand to purchase water if local supplies are deficient. Finally, the Rate Stabilization Fund is essentially a reserve in that it can be used to supplement operations revenues and maintain the debt coverage in times of need.

5.3 PROPOSED REVENUE ADJUSTMENTS

The pro forma operations statement or cash flow summary presented in Table 5-6 provides a basis for evaluating the timing and level of water revenue increases required to meet the projected revenue requirements for the study period. In order to meet projected revenue requirements and to maintain desired operating and debt reserve fund balances, the following revenue adjustments are recommended:

<u>Effective Date</u>	<u>Increases</u>
July 1, 2008	6.5 percent
July 1, 2009	6.5 percent
July 1, 2010	6.5 percent
July 1, 2011	6.5 percent

Table 5 – 6: Operating Financing Plan

Line		Estimated	Projected			
No.	Description	2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$
Revenue						
1	Revenue Under Existing Rates	278,601,800	280,955,700	282,626,200	284,666,200	287,281,900
Additional Revenue Required:						
	Year	Percent	Months Effective			
2	2007	0.0%	12	0	0	0
3	2008	6.5%	12	18,262,100	18,370,700	18,673,300
4	2009	6.5%	12	19,564,800	19,706,000	19,887,100
5	2010	6.5%	12		20,986,900	21,179,700
6	2011	6.5%	12			22,556,400
8	Total Revenue From Rates	278,601,800	299,217,800	320,561,700	343,862,400	369,578,400
9	Reclaimed Revenue	4,012,000	7,013,382	7,832,539	8,304,302	9,472,200
10	Fire Service and Auto. Sprinkler Svc.	1,493,333	1,498,111	1,503,815	1,498,420	1,500,115
11	Backflow Charges	482,333	470,111	470,148	474,198	471,486
12	Service Charge	1,375,000	1,401,100	1,427,700	1,454,900	1,482,500
Non-Operating Revenue						
13	Miscellaneous Revenue	19,150,806	18,179,900	18,525,300	18,877,300	19,236,000
14	Other Income	3,503,613	410,714	416,332	422,058	427,892
15	Rate Stabilization Fund Transfer	0	0	0	0	0
16	Transfer from Expansion Fund	17,844,082	23,506,831	28,510,028	36,158,955	41,959,785
17	Interest Earnings	8,126,500	14,107,300	12,712,100	17,646,600	14,959,500
18	Total Revenue	334,589,468	365,805,249	391,959,662	428,699,131	459,087,878
Revenue Requirements						
19	Net Water Purchases	125,340,073	120,025,426	121,027,939	122,276,807	123,612,021
20	O&M Expense	137,692,223	158,971,992	163,825,659	179,008,596	184,641,378
21	Total O&M Expense	263,032,296	278,997,419	284,853,598	301,285,404	308,253,399
Debt Service						
22	Bond Debt Service	41,247,300	51,445,500	60,401,500	71,499,400	79,301,300
23	SRF Loans	1,376,000	1,376,000	1,376,000	1,376,000	1,376,000
25	Total Debt Service	42,623,300	52,821,500	61,777,500	72,875,400	80,677,300
Transfers to Other Funds						
26	Transfer to Capital Replacement Fund	23202300	14971700	25550800	11011200	51431600
27	Loan to Capital Expansion Fund			30,000,000		60,100,000
28	Transfer to Rate Stabilization Fund	0	0	0	0	0
29	Secondary Purchase Reserve Transfer	917,500	(318,900)	60,200	74,900	80,100
30	Total Transfers	24,119,800	14,652,800	55,611,000	11,086,100	111,611,700
31	Total Revenue Requirements	329,775,396	346,471,719	402,242,098	385,246,904	500,542,399
Operating Fund Balance						
32	Net Annual Cash Balance	4,814,072	19,333,530	(10,282,435)	43,452,228	(41,454,521)
33	Beginning Fund Balance	18,049,800	22,863,872	42,197,402	31,914,967	75,367,195
34	Fund Balance	22,863,872	42,197,402	31,914,967	75,367,195	33,912,673
35	Minimum Required Balance	22,634,300	26,132,400	26,930,200	29,426,100	35,410,700
36	Debt Service Coverage on Parity Basis	1.61	1.43	1.53	1.41	1.55
37	Required Debt Service Coverage	1.20	1.20	1.20	1.20	1.20

SECTION 6: COST OF SERVICE

The City's user classifications as described in Section 4 of this report, and the revenue requirements reviewed and finalized through the operating and capital cash flow analysis discussed in Section 5 of the report, provide the basis for performing the cost of service analysis. This section of the report discusses the allocation of operating and capital costs to the parameters, the determination of unit rates, and the estimation of user class cost responsibility.

6.1 COST OF SERVICE ANALYSIS

The total revenue requirements net of revenue credits from miscellaneous sources, is by definition, the cost of providing service as shown in Table 6-1. This cost is then used as the basis to develop unit rates for the water parameters and to allocate costs to the various user classes in proportion to the water services rendered. The concept of proportionate allocation to user classes implies that allocations should take into consideration not only the average quantity of water used but also the peak rate at which it is consumed. There are costs associated with design and construction of facilities used to meet peak demands, and these need to be allocated appropriately so that users with higher peaks pay proportionately more to offset their cost. In this Study, water rates were calculated for FY 2008, and accordingly FY 2008 is defined as the Test Year. Test Year revenue requirements are used in the cost allocation process.

6.1.1 *Cost of Service to be Allocated*

The annual revenue requirements or costs of service to be recovered from commodity charges include operation and maintenance (O&M) expenses, costs associated with annual renewal and replacements, and other capital related costs. O&M expenses include costs directly related to the supply, treatment, and distribution of water as well as routine maintenance of system facilities. This maintenance is often referred to as Routine Capital and represents the annual recurring capital outlay for minor system improvements and purchase of equipment.

The total FY 2008 cost of service to be recovered from the City's retail users, shown in Table 6-1 on line 15, is estimated at just over \$287.4 million, of which approximately \$219.8 million is operating costs and the remaining \$67.6 million is capital costs, which consists of debt service and pay-go capital costs. The cost of service analysis is based upon the premise of generating annual revenues adequate to meet the estimated annual revenue requirements. As part of the cost of service analysis, revenues from customers with contractually based rates such as Cal-Am and agricultural users are deducted from the appropriate cost elements. Adjustments are also made to account for cash balances and mid-year rate increases to ensure adequate collection of revenue as shown in the operating cash flow (Table 5-6). Since the FY 2008 rate increase is scheduled for the start of the fiscal year the "Adjustment to Annualize Rate Increase" is set to zero.

To allocate the cost of service among the different user classes in proportion to their usage and peaking demands, costs first need to be allocated to selected water parameters. The following section describes the allocation of the operating and capital costs of service to the selected parameters of the water system.

Table 6-1: Cost to be Recovered from User Rates

Line No.		Operating Expense \$	Capital Cost \$	Total \$
Revenue Requirements				
1	O&M Expense (1)	278,997,419		278,997,419
2	Debt Service Requirements		52,821,500	52,821,500
3	Capital Transfer		14,971,700	14,971,700
4	Operating Transfer	(318,900)		(318,900)
5	Subtotal	278,678,519	67,793,200	346,471,719
Less Revenue Requirements Met from Other Sources				
6	Cal-Am Revenue by Contract	11,304,800	191,200	11,496,000
7	Agricultural Revenue by Contract	269,400	5,900	275,300
8	Miscellaneous Charges (2)	28,973,343		28,973,343
9	Expansion Debt Payment	23,506,831		23,506,831
10	Interest from Operations	14,107,300		14,107,300
11	Subtotal	78,161,674	197,100	78,358,774
Less Adjustments				
12	Adjustment for Annual Cash Balance	(19,333,530)		(19,333,530)
13	Adjustment to Annualize Rate Increase	0		0
14	Subtotal	(19,333,530)	0	(19,333,530)
15	Cost of Service to be Recovered from Rates	219,850,375	67,596,100	287,446,475

(1) Does not include cost related to potential increased water supply costs.

(2) Misc. Charges is mostly comprised of Land and Building Rentals, New Water Services and Services Rendered to Others

6.1.2 Functional Cost Components

The total cost of water service is analyzed by system function in order to equitably distribute costs of service to the various classes of customers. For this analysis, water utility costs of service are assigned to three basic functional cost components including base costs, extra capacity costs and customer service related costs.

Base costs are those operating and capital costs of the water system associated with serving customers to the extent required for a constant average rate of use. Extra capacity costs represent those operating costs incurred to meet customer peak demands for water in excess of average day usage, plus those capital costs for extra plant and system capacity beyond that required to supply water at the average rate of use. Total extra capacity costs are subdivided into costs associated with maximum day and maximum hour demands.

Customer service costs include customer related, meter, and fire hydrant related costs. Customer costs are uniform for all customers and include such costs as meter reading, billing, collecting, and accounting. Meter service costs include maintenance and capital costs associated with meters and services and fire hydrant related costs. These costs are assigned based on meter size or meter capacity.

The separation of costs of service into these principal components provides the means for further allocation of such costs to the various customer classes on the basis of their respective base, extra capacity and customer requirements for service.

6.1.3 Allocation to Functional Cost Components

The water utility is comprised of various facilities each designed and operated to fulfill a given function. In order to provide adequate service to its customers at all times, the utility must be capable of not only providing the total amount of water used, but also supplying water at peak or maximum rates of demand. The separation of costs into functional components provides a means for distributing such costs to the various classes of customers on the basis of respective responsibilities for each particular type of service.

6.1.4 Determination of Allocation Percentages

Allocation percentages are usually derived from actual historical production as is the case in this Study. RFC performed the following steps to derive the allocation percentages for apportioning the City's O&M and capital costs. Customer service related costs are allocated directly to their cost component so no allocation percentages are necessary. Volume related cost allocation requires some calculation. Table 6-2 will help in understanding the allocation percentage calculations.

The first step is to assign system peaking factors. Base is equal to average daily demand (ADD) and assigned a value of 1.0. The City's maximum day (Max Day) demand is estimated to be 1.5 times the ADD. Max Day is therefore assigned a value of 1.5. The maximum instantaneous usage is approximated by the maximum hourly (Max Hour) usage and is estimated to be 2.5 times the ADD. Max Hour is therefore assigned a value of 2.5. This is based on previous studies and confirmed by City staff. These peaking factors are typical of larger systems.

Allocations are calculated based on these factors. Allocation percentages are calculated by dividing the number of units by the peaking factor for the design basis. Cost categories that are solely Base related, such as source of supply, are allocated 100 percent to Base. Cost categories that are designed to meet Max Day peaks, such as treatment plants, are allocated to Base and Max Day factors. The treatment plant is sized for max day and has to be sized 1.5 times the ADD. Therefore the allocations are as follows:

$$\begin{array}{lcl} \text{Base: } 66.7\% & = & (1.0/1.5) \times 100 \\ \text{Max Day: } 33.3\% & = & (0.5/1.5) \times 100 \end{array}$$

Cost categories such as Distribution that are designed for Max Hour peaks are allocated similarly. The Base allocation percentage is calculated by dividing the Base units of 1.0 by the Max Day peaking factor of 2.5. The Max Day allocation percentage is calculated by dividing the Max Day units (0.5) by the Max Hour factor of 2.5. And the Max Hour allocation percentage is calculated by dividing the Max Hour units by the total peak of 2.5.

$$\begin{array}{lcl} \text{Base: } 40.0\% & = & (1.0/2.5) \times 100 \\ \text{Max Day: } 20.0\% & = & (0.5/2.5) \times 100 \\ \text{Max Hour: } 40.0\% & = & (1.0/2.5) \times 100 \end{array}$$

The results of the allocation are presented in Table 6-2 below.

Table 6-2: Calculation of Allocation Percentages

Capacity	Peaking Factor	Units	Allocation Percentages		
<i>Design Basis:</i>			<i>Base</i>	<i>Max Day</i>	<i>Max Hour</i>
<i>Base</i>	1.0	1.0	100%		
<i>Max Day</i>	1.5	0.5	66.7%	33.3%	
<i>Max Hour</i>	2.5	1.0	40%	20%	40%

These percentages are used to spread the operating and capital improvement costs amongst Base, Max Day, and Max Hour parameters for cost of service calculations.

6.1.5 Operating Expense

Projected net operating expenses for FY 2008 are allocated to cost components on the basis of an allocation of operation and maintenance expense. Operation and maintenance expense for the test year is allocated to cost components in the same manner as plant investment, based on the design criteria of the facilities.

Administration and general expenses are related to total system operations and are allocated in relation to all other operating expenses. The resulting allocation of operation and maintenance expense serves as the basis for allocating the FY 2008 net operating costs to the base, extra capacity and customer costs functions shown in Table 6-3.

6.1.6 Allocation of Plant Investment and Capital Costs

Capital costs include capital improvements financed from annual revenues, debt service and other sources. A reasonable method of assigning capital costs to functional components is to allocate such costs on the basis of net plant investment.

Net plant investment is represented by the total cost of water utility facilities less accumulated depreciation. The estimated fiscal year net plant investment in water facilities consists of net plant in service as of June 30, 2005, and the estimated cost of proposed major capital improvements.

The investment in distribution mains and storage, designed to meet maximum hour demands, is allocated to base, maximum day and maximum hour. The investment in general plant is allocated to each cost component on the basis of all other plant investment. The resulting allocation of net plant investment serves as the basis for allocating the capital costs shown in Table 6-3.

6.1.7 Allocation of Costs to Customer Classes

The total cost responsibility of each customer class may be estimated by the distribution of the functionally allocated total cost of service for the utility among the classes based on the respective service requirements of each class.

The allocation of costs of service into these principal components (Base, Extra Capacity and Customer) provides a means for further allocation of costs to the various customer classes on the basis of their respective service requirements.

6.1.8 Unit Costs of Service

In order to allocate costs of service to the different user classes, unit costs of service need to be developed for each cost category. The unit costs of service are developed by dividing the total annual costs allocated to each parameter by the total annual units of the respective category. Table 6-3 shows the units of service and the development of the FY 2008 unit costs for each of the cost categories.

Different units are used for the different cost categories. The volume related costs categories are based on volumetric units of one hundred cubic feet or HCF (about 748 gallons). The extra capacity categories of Max Day and Max Hour are based on a rate of usage so they are calculated in HCF per day. Customer related cost categories are based on accounts or equivalent meters.

Once the total number of units is known they can be used to calculate unit costs. The allocated costs are simply divided by the total number of units for each category to determine the unit costs of each category as shown in Table 6-3.

Table 6-3: Cost Allocation and Unit Cost Calculation FY 2008

Line No.	Description	Total \$	Base \$	Extra Capacity		Customer	
				Max Day \$	Max Hour \$	Meters & Services \$	Billing & Collecting \$
1	Adjusted Net Operating	219,850,375	169,045,375	10,166,600	7,989,200	15,331,300	17,317,900
2	Adjusted Capital Costs	67,596,100	29,200,900	3,289,950	4,068,950	31,036,300	-
3	Adjusted Cost of Service \$	287,446,475	198,246,275	13,456,550	12,058,150	46,367,600	17,317,900
Units of Service							
4	Inside City		91,461,178	226,605	368,211	387,101	277,404
5	Outside City		161,000	299	604	161	99
6	Total Units of Service		91,622,178	226,904	368,814	387,262	277,503
	Units of Measure		HCF	HCF/day	HCF/day	Equiv Mtrs	Accounts
Unit Cost of Service							
7	Operating		1.85	44.81	21.66	39.59	62.41
8	Capital		0.32	14.50	11.03	80.14	0.00
9	Total Unit Cost of Service		2.16	59.30	32.69	119.73	62.41

6.1.9 User Class Costs

The unit cost of each of the cost categories shown in Table 6-3 is then applied to the projected FY 2008 usage and units of each user class to derive user class costs. Table 6-4 shows the FY 2008 user class units and cost responsibility for each user class.

Table 6-4: User Class Water Cost of Service for FY 2008

Line No.	Item	Total \$	Base \$	Extra Capacity		Customer	
				Max Day \$	Max Hour \$	Meters & Services \$	Per Customer \$
	Inside City						
	SFD						
1	Units		34,479,413	94,464	141,696	235,702	223,276
2	Costs - \$	126,994,041	74,604,373	5,602,193	4,632,671	28,221,029	13,933,775
	Other Domestics						
3	Units		20,519,164	56,217	84,325	67,416	30,091
4	Costs - \$	60,438,607	44,398,070	3,333,941	2,756,965	8,071,788	1,877,843
	Commercial						
5	Units		22,207,400	30,421	76,053	47,385	15,571
6	Costs - \$	58,986,793	48,050,968	1,804,122	2,486,497	5,673,474	971,731
	Industrial						
7	Units		1,613,743	2,211	5,527	1,598	249
8	Costs - \$	4,010,384	3,491,715	131,100	180,686	191,324	15,558
	Temp. Constr.						
9	Units		346,667	1,187	1,662	4,659	797
10	Costs - \$	1,482,473	750,095	70,408	54,341	557,880	49,749
	Irrigation						
11	Units		12,294,791	42,105	58,948	30,341	7,420
12	Costs - \$	35,122,846	26,602,691	2,497,062	1,927,256	3,632,783	463,053
13	Subtotal Inside City	287,035,143	197,897,913	13,438,827	12,038,417	46,348,277	17,311,709
14	Subtotal Outside City	411,332	348,362	17,723	19,733	19,323	6,191
15	Total Cost of Service - \$	287,446,475	198,246,275	13,456,550	12,058,150	46,367,600	17,317,900

The SFR user class has the highest assignment of costs at just under \$127 million followed by the Other Domestics (MFR) user class at \$60.4 million. Together, the City's residential classes (SFR and Other Domestic) are responsible for 65 percent of the total cost of service. The commercial and industrial classes are responsible for 22 percent of the annual cost of service, and the remaining 13 percent is associated with irrigation and construction users.

Table 6-5 presents a comparison of the distribution of projected revenue (FY 2008) and cost among customer classes. As you can see, revenues by class closely match costs by class. Approximately 44 percent of both costs and revenues can be attributed to the SFR customer class. The biggest difference between revenue and cost is in the SFR class where 42.1 percent of revenue and 44.2 percent of costs are contributed by single family users. Table 6-5 indicates that based on COS, 2.16 percent more revenue should be recovered from SFR customers than under

current rates. Less revenue should be recovered from other domestics, commercial and temporary construction customers. However, the differences between revenue and cost are small and suggest that overall costs are being recovered in an equitable manner among customer classes.

Table 6-5: Cost Distribution Among Customer Classes, FY 2008

<u>Line</u> <u>No.</u>	<u>Customer Class</u>	<u>Revenue</u> <u>Distribution</u>	<u>Cost</u> <u>Distribution</u>	<u>Difference</u>
		<u>Under Existing</u> <u>Rate Structure</u>	<u>Under</u> <u>Proposed Rates</u>	
1	SFR	42.1%	44.2%	2.16%
2	Other Domestics (MFR)	21.8%	21.1%	-0.76%
3	Commercial	21.6%	20.6%	-1.06%
4	Industrial	1.4%	1.4%	-0.04%
5	Temp. Constr.	0.8%	0.5%	-0.27%
6	Irrigation	12.3%	12.2%	-0.03%
7	Total	100%	100%	0.0%

Once the user class cost responsibility is determined, the next step is to design user rate schedules to recover the revenues required from each user class, which is discussed in the next section. The rate design analysis will illustrate how revenues are collected within each class using the current rate structure and how they compare to costs.

SECTION 7: RATE DESIGN

The revenue requirements and cost of service analyses described in the preceding sections of this report provide a basis for the design of COS based water rates. Rate design is the process of development of rate schedules for each user class which will recover the annual cost of service determined for each user class from the members of that class in an equitable manner. In this Study, the focus of rate design is on the development of rate schedules for each of the City's retail service user classes. This section of the report discusses the 2008 water rate structures and a schedule of COS based rates for the City's user classes. It also suggests alternatives for changing the 2008 structure that would improve the equitability of cost recovery by class and customer. Finally, this section analyzes the impact of these alternative cost allocations and rate designs on user classes and customers within user classes.

7.1 RATE STRUCTURE

Rate structures should be designed in such a way as to ensure that users pay only their proportionate share of costs. In addition, rate structures should be easy to understand, simple to administer, and comply with regulatory requirements. A review of the 2007 rate structures provides insights into the equitability of the current methodology and the changes, if any, that should be considered. The 2007 rate structure was discussed in detail in Section 3.

There are no suggested changes to the 2007 rate structuring approach for any of the City's user classes, which incorporates both a fixed charge in the form of a service charge and a variable charge in the form of a commodity rate. In other words, the annual revenues required from each user class presented in Section 6 (Table 6-4) would be recovered through a combination of a fixed monthly service charge and variable commodity rate. The service charge and the suggested commodity rate for the various user classes are discussed in detail below.

7.1.1 Service Charges

A service charge is a cost recovery mechanism that is generally included in the rate structure to recover meter, customer and public fire protection related costs (i.e. costs related to maintaining hydrants), and which provides a stable source of revenue independent of water consumption. Therefore, customer costs related to meter reading, billing, and fire protection are recovered through the service charge. We suggest that the City continue its existing practice of applying consistent monthly service charges to users across all classes.

Customer related costs are fixed expenditures that relate to operational support activities including accounting, water billing, customer service, and administrative and technical support. The customer related costs are essentially common-to-all costs that are independent of user class characteristics. A service charge provides a mechanism for recovering a portion of the fixed costs and ensures a stable source of user revenues for the utility. In addition, there are capacity related costs such as meter maintenance and peaking charges that are included based on the hydraulic capacity of the meters. Since facilities are designed to meet peaking requirements, RFC has assigned a portion of the capital costs related to peaking to the service charge. The City's customer related costs for FY 2008 are estimated at \$63.7 million. Table 7-1 presents details of the costs considered for service charge calculations and is duplicative of some of the data contained in Table 6-4.

Table 7-1: Customer Related Costs Used to Determine Service Charges

Line No.	Description	Customer	
		Meters & Services \$	Billing & Collecting \$
1	Adjusted Net Operating	15,331,300	17,317,900
2	Adjusted Capital Costs	31,036,300	-
3	Adjusted Cost of Service \$	46,367,600	17,317,900
Units of Service			
4	Inside City	387,101	277,404
5	Outside City	161	99
6	Total Units of Service	387,262	277,503
	Units of Measure	Equiv Mtrs	Accounts
Unit Cost of Service			
7	Operating	39.59	62.41
8	Capital	80.14	0.00
9	Total Unit Cost of Service	119.73	62.41

Once the costs are known, they are divided by the number of units of service associated with those costs to determine annual unit costs. Meters and Services are associated with equivalent meters to reflect the fact that Meters and Service costs are higher for larger meters. Billing and Collecting are associated with accounts because they are similar for all customers. Annual unit costs are shown on line 9 of Table 7-1.

Annual unit costs are divided by 12 to reflect the fact that they are recovered monthly. These monthly costs are shown in Table 7-2 and listed as Meter Unit Cost and Billing Unit Cost. Meter Unit Costs are multiplied by the meter capacity ratio as discussed in Appendix A to calculate the Adjusted Meter Cost. The Adjusted Meter Cost is then added to the Billing Unit Cost to compute the cost based service charge shown in the right hand column of Table 7-2.

Table 7-2: Cost-Based Monthly Service Charges Calculation

Inside City

Meter Size in.	Meter			Billing	
	Meter Unit Cost \$	Meter Ratio	Adjusted Meter Cost \$	Billing Unit Cost \$	Calculated Service Charge \$
5/8	9.98	1.00	9.98	5.20	15.18
3/4	9.98	1.00	9.98	5.20	15.18
1	9.98	1.70	16.96	5.20	22.17
1 1/2	9.98	3.30	32.93	5.20	38.13
2	9.98	5.30	52.88	5.20	58.09
3	9.98	10.00	99.78	5.20	104.98
4	9.98	16.70	166.63	5.20	171.83
6	9.98	33.30	332.26	5.20	337.46
8	9.98	53.30	531.81	5.20	537.01
10	9.98	76.70	765.29	5.20	770.49
12	9.98	143.30	1,429.80	5.20	1,435.00
16	9.98	250.00	2,494.41	5.20	2,499.62

7.1.2 Commodity Rate

The commodity rate is the rate developed for each user class which will recover the City's variable volume related costs. The annual estimated FY 2008 revenues required, less annual cost based service charge revenues, are the revenues that need to be recovered through a commodity rate.

COS based commodity rates are developed for each user class based on the principle of maintaining inter-class and intra-class revenue neutrality and equity. This means that each user class would only pay its assigned share of costs of service (Refer to Table 7-3 for revenues required from each user class), and that each member of each class would only pay his or her fair share of user class costs. Since a portion of the revenues required from each user class is to be recovered through uniform monthly service charges, commodity rates are designed to recover only that portion of revenues that is not recovered through the service charge.

Annual service charge revenues for each user class for FY 2008 are estimated based on the forecast number of meters by size in a given class and the COS based monthly service charges in Table 7-2. The portion of revenues to be recovered through commodity rates is then determined by deducting the annual service charge revenues from the user class's FY 2008 cost of service. Table 7-3 shows the total assigned cost by class, the annual costs related to meters and recovered from the service charge, and the annual costs related to volume that are to be recovered from the commodity rate.

Table 7-3: Cost-Based Monthly Commodity Charge Calculation, FY 2008

Line No.		Total Costs \$	Meter Costs \$	Volume Costs \$	Units of Service HCF	Commodity Rate \$/HCF
Inside City						
1	SFR	126,993,900	42,154,800	84,839,100	34,479,413	2.461
2	Other Domestics (MFR)	60,438,600	9,949,600	50,489,000	20,519,164	2.461
3	Commercial	58,986,800	6,645,200	52,341,600	22,207,400	2.357
4	Industrial	4,010,400	206,900	3,803,500	1,613,743	2.357
5	Temp. Constr.	1,482,500	607,600	874,900	346,667	2.524
6	Irrigation	35,122,800	4,095,800	31,027,000	12,294,791	2.524
7	Total Inside City	287,035,000	63,659,900	223,375,100	91,461,178	2.442

The water commodity rate for each user class is computed based on the user class' annual usage revenues required and the estimated annual volume of water usage. The cost based commodity rate is shown in Table 7-3.

The user classes can be sorted into groups with similar peaking characteristics, resulting in a uniform water commodity rate that is the same within the group. Due to similar usage characteristics, residential customers are grouped together, commercial and industrial are grouped together, and construction and irrigation are grouped together. Table 7-3 illustrates this point. Note that the commodity rate is the same for the grouped classes.

The City currently differentiates between SFR and all other classes for rate design. To encourage conservation, SFR rates are tiered. Many agencies across the state use such a

structure to encourage conservation. The State of California also encourages use of conservation rate structures. RFC recommends the City retain its existing tiered rate structure to encourage conservation. Tiered rates are more practical to implement for the SFR class because this class is a fairly homogenous class. Since the small users do not put as much demand on the system, the first tier usage is provided a lower rate by discounting a part of the capital costs associated with peaking. The second tier is based on the COS rate and the third tier is designed to recover the remainder of the revenues from this class.

Table 7-4 shows the rates for the different classes. Rates for FY 2007 and two alternatives for FY 2008 rates are shown that include the 6.5 percent increase over FY 2007 rates. The first column called "2007 Existing" shows the actual 2007 rates for comparison purposes. The first of the 2008 rates is called "2008 City" and reflects a continuation of the rate structure currently used by the City, i.e., across the board or equal increases to the base rate and commodity rates. This is the incumbent rate structure updated for the 6.5 percent rate increase applied equally across all rates scheduled for FY 2008. The second option called "Proposed" is the Cost of Service based rate schedule. These rates are designed to be used with the cost-based monthly service charges shown in Table 7-2. Table 7-4 shows complete rate schedules for FY 2007 and the two alternative FY 2008 rates, as well as the proposed rates for 2009-2011.

Table 7-4: Existing Rates and Rate Alternatives

Meter Size inches	Service Charge					
	2007 Existing \$/month	2008 City \$/month	2008 Proposed \$/month	2009 Proposed \$/month	2010 Proposed \$/month	2011 Proposed \$/month
5/8	15.87	16.90	15.18	16.17	17.22	18.34
3/4	15.87	16.90	15.18	16.17	17.22	18.34
1	17.11	18.22	22.17	23.61	25.15	26.78
1 1/2	75.41	80.31	38.13	40.61	43.25	46.06
2	116.24	123.80	58.09	61.87	65.89	70.17
3	414.73	441.69	104.98	111.80	119.07	126.81
4	692.00	736.98	171.83	183.00	194.89	207.56
6	1,542.72	1,643.00	337.46	359.39	382.76	407.63
8	2,081.78	2,217.10	537.01	571.92	609.09	648.68
10	2,793.63	2,975.22	770.49	820.57	873.91	930.71
12	3,892.44	4,145.45	1,435.00	1,528.28	1,627.61	1,733.41
16	6,514.14	6,937.56	2,499.62	2,662.10	2,835.13	3,019.42

Customer Class	Commodity Rate					
	2007 Existing \$/HCF	2008 City \$/HCF	2008 Proposed \$/HCF	2009 Proposed \$/HCF	2010 Proposed \$/HCF	2011 Proposed \$/HCF
<u>SFR</u>						
0 - 7	1.731	1.844	2.262	2.409	2.566	2.732
7-14	2.163	2.304	2.461	2.621	2.791	2.973
Over 14	2.372	2.526	2.775	2.955	3.147	3.352
<u>General Service</u>						
Other Domestics (MFR)	2.003	2.133	2.461	2.621	2.791	2.973
Commercial & Industrial	2.003	2.133	2.357	2.510	2.673	2.847
Temp. Constr. & Irrigation	2.003	2.133	2.524	2.688	2.863	3.049

Table 7-5 shows the revenues anticipated to be generated by each user class under the existing City rate structure and the proposed COS rates. The difference in total revenue under the two options results from rounding errors and is less than two-tenths of one percent (0.2 percent). There will be small changes to the revenue recovery from classes as the cost structure changes. Therefore rates should be reviewed regularly.

Table 7-5: Revenue from Rate Alternatives

Line No.	Customer Class	2007 Existing Revenue \$	2008 City Revenue \$	2008 COS Revenue \$	COS vs. City
Inside City					
1	SFR	113,282,900	120,646,300	127,019,500	105%
2	Other Domestic	58,738,500	62,556,500	60,439,800	97%
3	Commercial	58,176,400	61,957,800	58,987,600	95%
4	Industrial	3,855,300	4,105,900	4,010,400	98%
5	Temp. Constr.	2,120,800	2,258,700	1,482,600	66%
6	Irrigation	33,012,300	35,158,100	35,123,400	100%
7	Subtotal Inside City	269,186,200	286,683,300	287,063,300	100%
14	Subtotal Outside City	358,700	382,000	411,300	108%
15	Total	269,544,900	287,065,300	287,474,600	100%

7.1.3 Rate Option Comparison

The two rate alternatives for FY 2008 presented here will produce approximately the same amount of revenue, but individual ratepayers will be impacted differently under each. The readily apparent difference between the alternatives is the service charge. The City's existing rate structure incorporates a higher service charge with a much larger cost difference between small and large meters than would be derived using AWWA standard methodology. This is clear when City service charges and COS service charges are compared in Table 7-4. Note that overall City service charges are higher and they are considerably higher for the largest meter charges. 5/8 inch meter charges are 11 percent higher and 12 inch meter charges are 57 percent higher under City rates than COS rates. Since overall the same amount of revenue will be recovered under each rate option, higher service charges must be complemented with lower commodity rates.

7.2 IMPACT ANALYSIS

RFC performed an analysis to evaluate the impact of the two rate alternatives on various users. A comparison of the rate alternatives on Single Family Residential customers is shown below in Table 7-6. Negative numbers are shown in parentheses. By using the proposed COS rates, residential customers using less than 5 HCF per month would receive a reduction in bills compared with what the City rates would be in 2008 if the existing rate structure was retained. This means that the effect of reducing the service charge is greater than the effect of the increased commodity rate for customers using less than 5 units of water. It also means that many residential users will receive higher bills under the COS rates than the City rates. Under COS based rates, water bills for SFR customers using 25 HCF (approximately 2 times the average) would be 6.8 percent greater than with the City rates.

Table 7-6: Single Family Residential Bill Comparisons

Monthly <u>Usage</u> HCF	2007 Existing <u>Rate</u> \$	2008 City <u>Rate</u> \$	2008 COS <u>Rate</u> \$	COS <u>minus City</u> \$	COS <u>vs. City</u>
0	15.87	16.90	15.18	(1.72)	(10.2%)
1	17.60	18.75	17.44	(1.30)	(7.0%)
2	19.33	20.59	19.70	(0.88)	(4.3%)
3	21.06	22.43	21.97	(0.47)	(2.1%)
4	22.79	24.28	24.23	(0.05)	(0.2%)
5	24.53	26.12	26.49	0.37	1.4%
6	26.26	27.96	28.75	0.79	2.8%
7	27.99	29.81	31.01	1.21	4.1%
8	30.15	32.11	33.48	1.37	4.3%
9	32.31	34.41	35.94	1.52	4.4%
10	34.48	36.72	38.40	1.68	4.6%
11	36.64	39.02	40.86	1.84	4.7%
12	38.80	41.32	43.32	1.99	4.8%
13	40.97	43.63	45.78	2.15	4.9%
14	43.13	45.93	48.24	2.31	5.0%
15	45.50	48.46	51.02	2.56	5.3%
20	57.36	61.09	64.89	3.80	6.2%
25	69.22	73.72	78.77	5.05	6.8%
30	81.08	86.35	92.64	6.29	7.3%
35	92.94	98.98	106.52	7.53	7.6%
40	104.80	111.61	120.39	8.78	7.9%
50	128.52	136.87	148.14	11.27	8.2%
60	152.24	162.14	175.89	13.76	8.5%
80	199.68	212.66	231.39	18.73	8.8%

A comparison of the rate alternative impacts on various commercial and industrial customers is shown below in Table 7-7, and once again negative numbers are shown in parentheses. As is the case with residential users, large volume commercial and industrial users will receive higher bills under the COS rates compared to the City rates. However, the reduction in meter charges will benefit low volume users. Customers with large meters will see a noticeable reduction in their meter charges that will partially offset higher commodity rates.

Table 7-7: Non-SFR (Commercial, Industrial, etc.) Bill Comparisons

Line No.	Customer Type	Meter Size Inches	Monthly Usage HCF	2007 Existing Rate \$	2008 City Rate \$	2008 COS Rate \$	2008 COS minus City \$	2008 COS vs. Existing
Hospitals								
1	Low Monthly Flow	2	90	296.51	315.78	270.21	(45.57)	(14.4%)
2	Medium Monthly Flow	2	260	637.02	678.43	670.90	(7.53)	(1.1%)
3	High Monthly Flow	2	975	2,069.17	2,203.66	2,356.11	152.45	6.9%
Printing/Graphics Services								
4	Low Monthly Flow	5/8	10	35.90	38.23	38.75	0.52	1.3%
5	Medium Monthly Flow	5/8	70	156.08	166.23	180.17	13.94	8.4%
6	High Monthly Flow	5/8	225	466.55	496.87	545.49	48.62	9.8%
Offices/Auto Service Stations								
7	Low Monthly Flow	5/8	20	55.93	59.57	62.32	2.75	4.6%
8	Medium Monthly Flow	5/8	70	156.08	166.23	180.17	13.94	8.4%
9	High Monthly Flow	5/8	230	476.56	507.54	557.28	49.74	9.8%
Auto Dealers								
10	Low Monthly Flow	5/8	15	45.92	48.90	50.53	1.63	3.3%
11	Medium Monthly Flow	5/8	65	146.07	155.56	168.38	12.82	8.2%
12	High Monthly Flow	5/8	165	346.37	368.88	404.08	35.20	9.5%
Retail/Commercial Businesses								
13	Low Monthly Flow	1 1/2	20	115.47	122.98	85.27	(37.71)	(30.7%)
14	Medium Monthly Flow	1 1/2	60	195.59	208.30	179.55	(28.76)	(13.8%)
15	High Monthly Flow	1 1/2	260	596.19	634.94	650.94	15.99	2.5%
Hotels								
16	Low Monthly Flow	1 1/2	65	205.61	218.97	191.33	(27.64)	(12.6%)
17	Medium Monthly Flow	1 1/2	260	596.19	634.94	650.94	15.99	2.5%
18	High Monthly Flow	1 1/2	720	1,517.57	1,616.21	1,735.13	118.92	7.4%
Mini-Shopping Centers								
19	Low Monthly Flow	2	35	186.35	198.46	140.58	(57.87)	(29.2%)
20	Medium Monthly Flow	2	75	266.47	283.79	234.86	(48.92)	(17.2%)
21	High Monthly Flow	2	210	536.87	571.77	553.05	(18.72)	(3.3%)
Industrial Laundry								
22	Low Monthly Flow	3	175	765.26	815.00	517.44	(297.55)	(36.5%)
23	Medium Monthly Flow	3	400	1,215.93	1,294.97	1,047.76	(247.21)	(19.1%)
24	High Monthly Flow	3	920	2,257.49	2,404.23	2,273.37	(130.86)	(5.4%)
Food Service Establishments								
25	Low Monthly Flow	1 1/2	20	115.47	122.98	85.27	(37.71)	(30.7%)
26	Medium Monthly Flow	1 1/2	60	195.59	208.30	179.55	(28.76)	(13.8%)
27	High Monthly Flow	1 1/2	175	425.94	453.62	450.60	(3.03)	(0.7%)
Supermarkets								
28	Low Monthly Flow	1 1/2	35	145.52	154.97	120.62	(34.35)	(22.2%)
29	Medium Monthly Flow	1 1/2	75	225.64	240.30	214.90	(25.40)	(10.6%)
30	High Monthly Flow	1 1/2	210	496.04	528.28	533.09	4.81	0.9%
Apartment Complex								
31	Low Monthly Flow	3	60	534.91	569.68	252.61	(317.06)	(55.7%)
32	Medium Monthly Flow	3	600	1,616.53	1,721.60	1,581.32	(140.28)	(8.1%)
33	High Monthly Flow	3	1,200	2,818.33	3,001.52	3,057.67	56.15	1.9%

SECTION 8: CAPACITY FEES

As indicated in Section 5, one of the sources of system revenues is the one-time capacity (developer) fee that is applied to all new or expanded connections to the City's Water System. This section of the report outlines the existing capacity fee structure, the regulatory requirements, computational methods, and the approach used in this Study to compute capacity fees and the capacity fee schedule.

The City applies two types of one-time fees to its water system users: Capacity Fees and Connection Fees. A capacity fee is a one-time fee which is charged for new, additional or larger connections to the City's water system. Capacity fees recover the costs associated with providing additional facility capacity to new users and existing users requiring additional capacity. Connection fees are used to recover costs associated with the physical installation of lateral connections to water mains, and can be thought of as "plumbing charges". The scope of this study is limited to a review of the Capacity fees.

8.1 EXISTING CAPACITY FEES

The City's existing capacity fee, based on individual dwelling unit requirements or their equivalent (Equivalent Dwelling Units, or EDU's), is a one-time charge determined per Municipal Code Section 64.0410. An EDU is defined in terms of volume of water or the number of plumbing fixture units which equate to an EDU. The City's EDU's are defined as follows:

500 gallons per day of water usage = 1 EDU for single family residences

Twenty Plumbing Fixture Units = 1 EDU for non residential users

The minimum capacity assigned to any water connection is one EDU. Multi-Family Residential (MFR) units having individual, City-read water meters are charged one EDU per unit, while MFR units that share a common water meter are charged based on a density-adjusted formula. The formula is based on the theory that the more units per acre, the smaller the unit and therefore the less water capacity needed.

The City's present water capacity fee is \$2,550 per EDU and has been in effect since 2004. For commercial and industrial users meeting the eligibility criteria contained in Council Policy 900-12 (referred to as the Council Policy 900-12 Rate), and for affordable housing units and residential units constructed in redevelopment districts (referred to as the Preferential Rate), the City applies a reduced fee of \$1,500 per EDU.

Though capacity fees are a form of user charge, they are not treated as operating revenues and are instead considered capital expansion revenues.

8.1.1 Philosophical Objectives and Regulatory Requirements

The primary objectives of establishing a full cost recovery capacity fee are to achieve equity in distributing costs and to provide a mechanism by which new users can pay for the cost of the facilities required to serve them without burdening existing users. In short, the goal of a full cost recovery capacity fee is to ensure that growth pays its own way.

8.1.2 AB 1600

In California, the state legislature enacted statutes in 1987 which imposed procedural and substantive requirements relating to the calculation, adoption, administration and enforcement of impact fee systems. Under the provisions of AB 1600, whenever a local agency imposes a fee as a condition to the approval of a development project for payment of the costs of public facilities related to the project, the agency must identify the purpose of the fee and the public facilities to be financed. The basic statutory standards governing water and sewer system capacity (development) fees are embodied in Government Code Sections 66000 et seq. An important requirement in designing water capacity charges is spelled out in Government Code 66013 which requires that capacity charges must be based on an estimate of the reasonable cost of providing capacity. Following are relevant portions of Government Code 66013:

66013. (a) Notwithstanding any other provisions of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charges is imposed, unless a question regarding the amount of the fee or charge imposed in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.

(b) As used in this section:

- (1) "Sewer connection" means the connection of a building to a public sewer system.
- (2) "Water connection" means the connection of building to a public water system, as defined in subdivision (e) of Section 4010.1 of the Health and Safety Code.
- (3) "Capacity charges" means charges for facilities in existence at the time the charge is imposed or charges for new facilities to be constructed in the future which are of benefit to the person or property being charged.
- (4) "Local agency" means a local agency as defined in Section 66000.
- (g) Any judicial action or proceeding to attack, review, set aside, void, or annul the ordinance, resolution, or motion imposing a fee or capacity charge subject to this section shall be brought pursuant to Section 66022.

The essence of Section 66013 is that a capacity fee may be no higher than the estimated reasonable cost of providing a service to new customers unless the voters have specifically

8.2 COMPUTATIONAL METHODS FOR CAPACITY FEE DETERMINATION

There are several methods that could be used to calculate capacity fees. Three industry-accepted computational approaches are discussed below.

8.2.1 System Buy-in Method

The buy-in concept is based on the premise that new users are buying into an existing system which already has the capacity to serve them, and by doing so they achieve a financial position

that is on par with the existing users of the system who originally provided and paid for that capacity.

To foster equity between existing and new users under the buy-in method, the new users pay for the cost or value associated with the portion of existing system capacity that they use. If the existing system has 100 units of capacity for average usage or peak usage and the new user requires one unit of capacity, then the new user pays for 1/100 of the value of the existing system. Together, the new users (once paid up) and the existing users will face future capital challenges on equal footing since equivalent investments have been made. This method is applicable in situations where the existing system has adequate surplus capacity and does not require major upgrades or improvements.

8.2.2 Incremental-Cost Pricing Method

The incremental-cost pricing method is based on the premise that new users should pay for the incremental portion of both existing reserve capacity which must be replaced, and any new capacity which must be added to the system to meet their needs. The goal of this method is, once again, to eliminate or minimize the need to raise existing user rates in order to replace needed reserve capacity or fund new facilities to accommodate growth. This method is applicable under circumstances in which reserve capacity presently exists but must be replaced if used.

8.2.3 Specific Capacity Method

The specific capacity method determines capacity fees based on the cost to construct the incremental capacity required. For example, if it costs X dollars to construct Y units of new capacity, then the capacity fee per unit is determined to be X/Y. This method does not take into account the value of surplus capacity in existing facilities, and is therefore most applicable in situations where there is no available capacity in the existing facilities and new users have to be served entirely through the creation of additional capacity.

8.2.4 Suggested Approach for the Determination of City's Municipal Capacity Fees

The approach used in determining capacity fees should reflect system characteristics in addition to meeting regulatory requirements and policy considerations. In determining City capacity fees, we suggest a hybrid approach that incorporates some of the characteristics of the Buy-in and Specific Capacity methods. The hybrid approach has the advantage of including components which would not be considered otherwise, such as existing buildings, laboratories, etc. which may not necessarily need to be expanded for new users, but which benefit them. There will, for example, typically be capacity in the distribution system and, in this case, in the supply system that a future user will benefit from. Thus, the hybrid approach combines the value of the existing and future facilities and spreads them over the ultimate demand (including current and future capacity) to be met, and the ultimate demand provides the denominator needed for the calculation of the capacity fee. We believe that the hybrid approach is superior for the following reasons:

- Some elements of capacity are available in the existing system to meet the needs of future users. At the same time, the City is adding capacity to other elements where needed. The hybrid approach will fairly apportion the cost of both, and result in a reasonable fee

which will ensure that existing users do not bear any part of the burden of providing capacity to new users.

- While the incremental-cost method could be utilized, the absence of a formal system master plan makes it difficult to estimate unit costs for facilities such as transmission and distribution mains. Absent such estimates, use of the incremental-cost method would preclude capturing the cost of existing capacity to be used by new users.
- Since the specific capacity method requires that the capacity provided by each capital project in the system be determined, and the current CIP does not include the capacity of all facilities which will benefit new users, its use would also be inappropriate.

8.3 COMPUTATION OF CITY'S CAPACITY FEES

The computation of capacity fees includes the following steps:

- Estimation of costs of existing facilities benefiting future users
- Identification of outstanding principal on replacement debt
- Identification of existing reserves
- Identification of expansion related CIP projects and their associated total capacity
- Estimation of grants used for expansion projects
- Estimation of interest on the debt used to finance expansion projects
- Derivation of unit capacity cost and capacity fee per EDU

Table 8-1 shows the calculation of the capacity fees. We have used the original cost less depreciation (OCLD) method to determine the system buy-in value of existing facilities including hydrants and general plant. For the buy-in component, the asset value is reduced by the outstanding principal on replacement debt to determine equity of the existing users to ensure that new users are not paying twice for the same capacity; i.e., once through payment of capacity fees and a second time through user fees which include debt service payments. By deducting the principal value of the replacement debt from the cost of the facilities, new users in fact pay only for the equity portion of the existing facilities via the capacity charge. It is expected that new users will be sharing in the cost of the principal on the replacement debt once they join the system. Cash from operating, capital, and debt reserves related to replacement projects are added to derive the net buy-in equity.

An eight-year outlook was used in identifying future CIP projects. The CIP projects identified were classified into functional categories including source of supply, pump stations, transmission, production, storage and distribution. Administration and General CIP projects such as operations center, miscellaneous, contingencies and program management were classified as General Plant. Costs for future projects were based on the CIP. The capacity of some facilities such as new distribution lines was not readily identifiable. The value of new distribution mains was combined with existing mains and the ultimate capacity used to estimate unit costs. Costs of existing distribution pipes smaller than 16-inches in diameter which a developer will typically install as a condition of development were excluded. Expansion projects are included in the expansion portion of the capacity fee. Future debt financing costs related to expansion projects are included in the expansion portion of the capacity fee so that existing users

are not burdened with having to pay the costs of expansion related projects or related debt service.

Expected grants for future facilities are used to reduce the total asset value used to calculate the capacity fee. Past grants were not considered since the project(s) for which they were used cannot be identified in the current asset list. The amount is small and when depreciated would result in an even smaller impact.

8.3.1 Derivation of Unit Capacity Cost and Capacity Fee per EDU

The unit capacity cost for each project is derived by dividing the total estimated cost of the project by the estimated average usage capacity of that project. In this Study, project capacity is estimated in terms of average or peak usage per day. Since many water capital facilities are designed based on a peak demand, peaking has to be taken into account. This is done after unit capacity costs are calculated. The future capacity of the system after the implementation of the CIP program listed is used as the average capacity for most components for the system. The current treatment capacity is 294 million gallons per day (MGD), and after completion of the plant expansions proposed in the CIP, system capacity will be 462.5 MGD, of which 161 MGD is from expansion of existing water treatment plants and 7.5 MGD is from reclaimed water capacity. Expansion storage was associated with a capacity of 25 MGD based on estimates of additional capacity provided by the storage projects specifically. Associated costs are divided by capacities to calculate unit costs for each category as shown in Table 8-1.

The City defines a water EDU's average usage as 500 gallons per day (GPD), and this value is used in determining the capacity fee per EDU. Since water facilities are designed based on peak capacity, a demand basis was assigned to each category and an actual demand per EDU was calculated. Facilities designed for average day demand (ADD) are assigned a standard demand of 500 GPD. Facilities designed on a max day demand (MDD) are assigned a demand of 750 GPD based on a peaking factor of 1.5 as explained in Section 6. Facilities designed for a maximum hour demand (MHD) are assigned a demand of 1,250 GPD based on a peaking factor of 2.5 as explained in Section 6. After demand is established the unit cost is multiplied by the demand to calculate the cost per EDU shown in Table 8-1. The capacity fee is merely the sum of these costs per EDU.

Based on our analysis, the estimated full cost recovery capacity fee per EDU for projects constructed through 2015 is \$3,047. The increase of approximately \$600 per EDU results primarily from an increase in capital expansion projects and the high inflation in capital costs in the last few years.

Table 8-1: Water Capacity Fee Calculation

Line No		<u>System Buy-In</u>	<u>Expansion</u>	<u>Total</u>	Associated <u>Capacity</u> (MGD)	<u>Unit Cost</u>		<u>EDU</u> (gpd)	<u>Demand Basis</u>	<u>Demand</u> (gpd)	<u>Cost</u> (\$/EDU)
		<u>Existing</u> <u>OCLD</u> (\$)	<u>CIP</u> (\$)	<u>Asset Base</u> (\$)		<u>Buy-in</u> (\$/gpd)	<u>Expansion</u> (\$/gpd)				
1	Source of Supply	35,687,904	56,049,275	91,737,179	462.5	0.08	0.12	500	ADD	500	99
2	Pump Stations	3,051,000	14,791,587	17,842,587	462.5	0.01	0.03	500	MHD	1,250	48
3	Transmission	16,997,890	136,064,082	153,061,972	462.5	0.04	0.29	500	MDD	750	248
4	Production*	0	127,089,879	127,089,879	168.5	0.00	0.75	500	MDD	750	566
5	Storage	0	16,970,082	16,970,082	25.0	0.00	0.68	500	MDD	750	509
6	Distribution Mains >=16"	141,270,668	18,651,909	159,922,577	462.5	0.31	0.04	500	MHD	1,250	432
7	Hydrants	10,023,758	0	10,023,758	462.5	0.02	0.00	500	ADD	500	11
8	General Plant	43,251,493	28,852,063	72,103,556	462.5	0.09	0.06	500	ADD	500	76
9	Repl Debt Service Principal	(339,251,383)	0	(339,251,383)	462.5	(0.73)	0.00	500	MDD	750	(550)
10	Expansion Debt Interest	0	347,517,874	347,517,874	168.5	0.00	2.06	500	MDD	750	1,547
11	Reserves	73,364,000	0	73,364,000	462.5	0.16	0.00	500	MDD	750	119
12	Expected Grants	0	(13,600,000)	(13,600,000)	168.5	0.00	(0.08)	500	MDD	750	(61)
13	System Buy-in Fee	(15,604,670)	732,386,752	716,782,081							\$3,047
<u>Summary</u>		<u>Calculated Cost</u>		<u>Existing Cost</u>		350					
		(\$/EDU)		(\$/EDU)							
14	Total Capacity Fee	\$3,047		\$2,550							

APPENDIX A : EQUIVALENT METER CALCULATIONS

This section describes some of the calculations used in cost of service calculations. An explanation of the calculations is useful in understanding the cost of service analysis that is detailed in Section 6. The calculation of equivalent meters is explained below.

Equivalent Meters

Equivalent meters are used rather than just meters in order to recognize the fact that larger meters are more expensive to install, maintain and replace than smaller meters. Appendix Table A-1 shows the calculation of equivalent meters. Meters are assigned a hydraulic capacity by size which is based on the maximum measurable flow rate of the meter. For example a 5/8 inch meter has a hydraulic capacity of 30 gallons per minute (gpm) whereas a 6 inch meter has a hydraulic capacity of 1,000 gpm. In this study 5/8 inch and 3/4 inch meters are considered the base measure of a meter because they are both used for residential metering and are essentially interchangeable.

A ratio of capacity is calculated by dividing the large meter capacities by the base meter capacity which in this case is 30 gpm. This results in a hydraulic capacity ratio that is used to calculate equivalent meters. The actual number of meters by size is multiplied by the corresponding capacity ratio to calculate equivalent meters. For example: the capacity ratio for a 6 inch meter is $33.3 = 1,000\text{gpm} / 30\text{gpm}$. Essentially each 6 inch meter is equivalent to 33.3 base meters.

Appendix Table A-1 – Cost Allocation and Unit Cost Calculation

Meter Size	2007 Meters	Hydraulic Capacity gpm	Hydraulic Capacity Ratio	Equivalent Meters
5/8 and 3/4	225,988	30	1.00	228,953
1	22,107	50	1.70	38,091
1 1/2	10,136	100	3.30	33,825
2	11,276	160	5.30	60,300
3	439	300	10.00	4,433
4	373	500	16.70	6,317
6	170	1,000	33.30	5,740
8	79	1,600	53.30	4,216
10	13	2,300	76.70	944
12	1	4,300	143.30	180
16	1	7,500	250.00	180
	274,119			383,178

By using equivalent meters in cost calculations we do not have to track all meters by meter size. This allows for more concise analysis and explanation. The net effect of using equivalent meters instead of tracking all meters by size is the same. Equivalent meters are used in the unit cost calculation of meters and services in the cost of service section.

STATE OF CALIFORNIA,
DEPARTMENT OF HEALTH SERVICES

RE: THE CITY OF SAN DIEGO
202 "C" Street, Mail Station 9A
San Diego, CA 92101

TO: Jack McGrory
City Manager

FINDINGS OF FACT

The City of San Diego (City) operates a municipal water system that supplies domestic water to approximately 241,833 service connections and approximately 1.2 million people. The City's primary source of water supply is from the First and Second San Diego Aqueducts, which is mostly Colorado River water purchased from the San Diego County Water Authority. In addition, the City receives approximately ten to twenty percent of its water from local runoff collected in eight of its nine lakes (although Lake Hodges is owned by the City, it is only a drinking water source for Santa Fe Irrigation District). The City provides complete treatment of the water at the Miramar, Alvarado, and Otay Water Treatment Plants (WTP). The service area of the Alvarado WTP is approximately 73.8 square miles delivering water to 542,000 people through 229,000 service connections.

1
2 During 1993, the State of California, Department of Health
3 Services, Drinking Water Field Operations Branch (DWFOB)
4 conducted a sanitary survey of the City of San Diego Water
5 Utilities Department (WUD). The findings of the inspection are
6 found in a January 20, 1994 inspection memo report and a
7 January 25, 1994 letter to the City (see the letter in
8 Attachment No. 1). In response to the 1993 inspection report,
9 a compliance agreement between the State of California,
10 Department of Health Services, DWFOB, and the City of San Diego
11 was negotiated and signed in late 1994 by the Water Utilities
12 Department and the City Attorney and DWFOB (see Attachment No.
13 2). On November 28, 1994, it was unanimously adopted by the
14 Council of the City of San Diego as Resolution No. 284995. In
15 agreeing to these terms the City of San Diego therein made a
16 commitment to rehabilitate or replace certain distribution
17 reservoirs, and make corrections to the cross-connection
18 control program.

19
20 DISTRIBUTION RESERVOIRS

21
22 The compliance agreement between DWFOB, and the City of San
23 Diego included a schedule to address replacement or
24 rehabilitation of thirteen of the forty distribution reservoirs
25 which have structural problems. Although the reservoirs were
26 structurally sound when constructed, a lack of adequate
27 maintenance has resulted in severe structural problems with

1 some of the reservoirs. These structural problems range from
2 deteriorated coatings to severe cracks requiring complete
3 replacement of large reservoirs. Some of these reservoirs
4 could potentially have a major failure at any time and are
5 especially vulnerable to an earthquake (see the photographs in
6 Attachment No. 3). The loss of the use of a reservoir due to
7 structural damage would result in water outages in areas of the
8 City. Without these capital improvements the City cannot
9 assure a reliable and adequate supply of potable water. The
10 specific structural problems include the following work
11 remaining to be done:

- 12 • The Bayview Concrete Covered Reservoir (CCR), Point Loma
13 Concrete Reservoir (CR), and Soledad Precast Concrete Tank
14 (PCT) all have serious to severe structural problems causing
15 them to be vulnerable to collapse (see the photographs in
16 Attachment No. 3).
- 17 • The Penasquitos PCT, Rancho Bernardo CCR, San Carlos PCT,
18 and South San Diego CCR need to be rehabilitated with
19 structural seismic retrofits.
- 20 • Due to coating failures at Chesterton Standpipe (SP),
21 Emerald Hills SP, Lomita Village SP, Paradise Hills SP, and
22 Redwood Village SP, the steel is rusting and the tanks are
23 vulnerable to collapse.

1 Until recently, the WUD has done a fine job at meeting the
2 dates in the compliance agreement between DWFOB and the City of
3 San Diego. Construction has been completed on Alvarado
4 Regulating CCR, Del Cerro CCR, and University Heights CCR.
5 Chesterton SP and Paradise Hills SP will be demolished. Work
6 on the Redwood Village SP is currently under way. Per letter
7 dated October 24, 1996 (and subsequent updates) WUD committed
8 to a schedule for work on Pt. Loma CR, Penasquitos PCT, Rancho
9 Bernardo CCR, San Carlos PCT, and South San Diego CCR.

10
11 Plans for the Bayview CCR were completed in 1991; however,
12 construction has been delayed due to a lack of funding.
13 Compliance Agreement Items No. 12 and 13 require the City to
14 begin construction of the Bayview CCR by August 31, 1996 and to
15 complete construction by August 31, 1998. Compliance Agreement
16 Items No. 18 and 19 require the City to begin construction of
17 the Soledad PCT by October 5, 1998 and to complete construction
18 by September 16, 1999. The August 31, 1996 deadline has not
19 been met. Since the Bayview CCR must be completed before
20 construction of the Soledad PCT can begin, Compliance Agreement
21 Items No. 12, 13, 18, and 19 will not be met. These items will
22 be delayed at least two years because the City has not secured
23 adequate funding for the projects.

24
25 The Bayview and Soledad Reservoirs serve approximately 60,000
26 people. These reservoirs are central to the City's La Jolla
27 and Pacific Beach areas. It is essential that these important



1 components of the system be able to "provide a reliable and
2 adequate supply of pure, wholesome, healthful, and potable
3 water", per California Health and Safety Code Section 4017.
4

5 A capital improvements program (CIP) has been proposed since at
6 least 1987, to replace the Bayview CCR and the Soledad PCT.
7 Further delays are unacceptable due to the high probability
8 that the deteriorated roof of the Bayview CCR or the weakened
9 walls of the Soledad PCT could collapse at any time, and cause
10 a prolonged water outage to a significant population.
11

12 ALVARADO WATER TREATMENT PLANT

13
14 Because of recent outbreaks of Cryptosporidium in the United
15 States, the American Water Works Association (AWWA) and DWFOB
16 have recently set treatment goals which are more stringent than
17 standards contained in Title 22, Chapter 17, in order to ensure
18 that Cryptosporidium has been removed from the water (see
19 Cryptosporidium Action Plan in Attachment No. 4). Disinfection
20 with chlorine has not been proven effective for inactivation of
21 Cryptosporidium; therefore, watershed protection and the
22 removal processes (coagulation, flocculation, sedimentation,
23 and filtration) must be relied upon.
24

25 In order to meet these goals, water treatment plants should be
26 optimized to produce an effluent turbidity goal of 0.1 NTU
27 consistently (95% of the samples required every four hours,

1 determined on a monthly basis). During 1995, the plant did not
2 meet a 0.1 NTU goal, but it did meet the Title 22 standard of
3 0.5 NTU. The monthly average effluent turbidity in 1995 has
4 ranged from 0.10 to 0.18, with a 1995 median of 0.15 NTU. The
5 95th percentile turbidity for each month in 1995 ranged from
6 0.16 to 0.31, with a 1995 median of 0.24 NTU. The operators
7 are doing nearly everything possible to produce high quality
8 water given the condition of the plant and the equipment. The
9 main problem is the old and hydraulically overloaded treatment
10 processes, which are documented in a 1996 inspection report
11 produced by DWFOB (see cover letter to the Alvarado inspection
12 report in Attachment No. 5).

13
14 The Alvarado plant had a brief treatment failure on May 24,
15 1995, when the combined effluent turbidity reached 1.8 NTU.
16 Some of the individual filter effluents exceeded 2 NTU. The
17 water delivered to the system met standards because the
18 operator on duty responded quickly and appropriately by taking
19 the plant out of service. The event occurred when raw water
20 turbidity went from 2.6 to 6.0 NTU (median raw water turbidity
21 was approximately 1.7 in 1995); and the settled water turbidity
22 went from 2.6 to 10.3 NTU. This indicates that the treatment
23 processes prior to filtration were not able to adequately treat
24 the water. Based upon this incident, DWFOB has serious
25 concerns about the ability of the plant to meet standards when
26 the raw water turbidity exceeds 5 NTU.

1 The flocculation and sedimentation basins were originally
2 designed for a flow of 66 MGD, not 120 MGD. In the
3 sedimentation process, the weir overflow rates and the surface
4 loading rates are about three times above normal design
5 criteria for a conventional filtration plant (see page 27 of
6 the attached DWFOB 1996 inspection report in Attachment No. 6
7 for a detailed evaluation). Consequently, at times the filters
8 are overloaded with a significant amount of floc carry-over
9 from the sedimentation basins. In addition, the sedimentation
10 process is susceptible to short-circuiting of flow and the old
11 sludge removal equipment is a maintenance problem.

12
13 The Alvarado Water Treatment Plant is an old plant that shows
14 its age in several ways. Most of the process equipment is old
15 and deteriorating (refer to the pictures in the DWFOB 1996
16 inspection report in Attachment No. 7) and subject to frequent
17 failure. Structurally, the flocculation and sedimentation
18 basin walls, the sedimentation basin columns, and the
19 sedimentation basin upper decks have many cracks (refer to the
20 pictures in the DWFOB 1996 inspection report in Attachment No.
21 8). The structures were not built to current code and may be
22 vulnerable to a seismic event (see pages 25 and 29 of the DWFOB
23 1996 inspection report in Attachment No. 6), which would render
24 the plant useless.

25
26 The backwash water from the filtration process is recycled by
27 discharging it into Lake Murray for settling at a point

1 approximately 400 feet from the intake tower. Although water
2 is not taken from Lake Murray every day, it is used as a source
3 of raw water supply. Without adequate settling of the backwash
4 water, the intake tower could be withdrawing water with
5 increased loading of Giardia and Cryptosporidium. Since the
6 sedimentation process in the plant is overloaded, the filters
7 are totally relied upon to remove the pathogens. In other
8 words, the plant almost operates as a direct filtration plant.
9 For this reason, the filtration process should be optimized.

10
11 Anticipated future growth of the population will create a
12 higher water demand. The filtration rate is limited by Title
13 22 regulations to a maximum flow rate per surface area of the
14 filter bed. A greater water demand will further challenge the
15 capacity of the current plant to filter water adequately.

16
17 A capital improvements program has been proposed since at least
18 1989, to upgrade the plant, equalize flow, add two more rapid
19 mixers, build parallel flocculation and sedimentation basins,
20 build ozonation facilities, build new filters to replace the
21 old filters, and construct facilities to provide treatment of
22 the backwash water prior to recycling. It also proposes to
23 rehabilitate the existing flocculation and sedimentation basins
24 with vertical turbine flocculators and better baffling to
25 minimize short-circuiting. The new flocculation and
26 sedimentation basins would lessen the flow in the old basins to
27 a more reasonable rate and improve turbidity and pathogen

1 removal prior to the filters. With better pretreatment, newer
2 and better filters, and treatment of the backwash water prior
3 to recycling, the plant should be able to meet the 0.1 NTU
4 effluent goal. The new basins would also provide a redundant
5 treatment process that would be designed to current seismic
6 codes and would not be vulnerable to the same seismic event
7 that may destroy the older basins. The new basins would also
8 provide the flexibility needed to allow the operators to drain,
9 rehabilitate, and maintain the older basins and equipment.

10
11 The Alvarado WTP capital improvements program is essential from
12 both a water quality and structural viewpoint to ensure that a
13 high quality water is produced, and to address equipment and
14 structures in poor condition. The major specific reasons that
15 the capital improvements at the Alvarado Plant are needed
16 include the following deficiencies or issues:

- 17 a) The plant has had difficulty meeting the 0.1 NTU effluent
18 turbidity goal for Cryptosporidium removal.
19
20 b) The plant has not been able to adequately treat raw water
21 with high turbidity.
22
23 c) The sedimentation hydraulic capacity is inadequate based
24 upon good engineering design practice, both currently and
25 for future demands.
26
27

1 d) Because the plant was built prior to the current seismic
2 codes, there is a potential problem with seismic
3 vulnerability and catastrophic loss.

4 e) The backwash water is discharged into Lake Murray at a
5 point which is close to the intake tower, potentially
6 recycling Cryptosporidium and Giardia, and thereby
7 overloading the particle removal processes.

8
9 In their October 15, 1996 response to the DWFOB 1996 inspection
10 report, the WUD states, "The City has a strong commitment to
11 the continuation of the Alvarado Water Treatment Plant
12 expansion and rehabilitation project. . . . However, the 90%
13 completed designs are on hold until further funding becomes
14 available." Further delays are unacceptable.

15
16 WATER TREATMENT PLANT OPERATIONS

17
18 Currently, each of the City's water treatment plants has only
19 one operator with a Grade 5 Water Treatment Operator
20 certification. There is no Grade 5 operator to supervise
21 operations if the Senior Water Operations Supervisor is on
22 vacation or otherwise unavailable. The Senior Water Operations
23 Supervisor is also often at various meetings required by the
24 job. The Water Operations Supervisor typically supervises 24-
25 hour operations. Due to the size of the plants, their age, and
26 the commitment to optimizing treatment to meet a 0.1 NTU goal,

1 all operators with 24 hours per day responsibility, such as the
2 Superintendent, the Senior Water Operations Supervisor, and the
3 Water Operations Supervisor are required to have a minimum
4 Grade 5 certificate.

5
6 PUMP PLANTS, TRANSMISSION, AND WATER MAIN PIPELINES

7
8 The City of San Diego has six pump plants (also called booster
9 stations) that are in critical need of rehabilitation. These
10 are included as part of the City's CIP program, but currently
11 there is no funding for completing these projects.

12
13 For instance, the 65th and Herrick Pump Plant (PP) was built in
14 1949. It still has the original pumps. These pumps are very
15 noisy and sound like they are experiencing cavitation.

16
17 The City of San Diego has several transmission pipelines that
18 are in critical need of repair or replacement. These are
19 included as part of the City's CIP program, but currently there
20 is no funding for completing these projects.

21
22 For instance, the Otay 2 Pipeline, which purveys water from the
23 Otay WTP north to the 490 pressure zone and west to Coronado
24 and Imperial Beach, was built in the 1920's. It was
25 constructed of unlined steel and is vulnerable to corrosion and
26 rupture. As recently as April 8, 1996, a 40-inch diameter
27 section ruptured. A capital improvements program has been



1 proposed since at least 1989, to replace the Otay Pipeline.
2 Further delays are unacceptable.

3
4 Another transmission pipeline, the Bonita Pipeline, which
5 purveys water from the Otay 2 Pipeline north to the 536
6 pressure zone and west to North Park and downtown, was built in
7 the 1920's. It was constructed of riveted steel and is
8 vulnerable to corrosion and rupture. As recently as April 9,
9 1993, a 28-inch diameter section ruptured.

10
11 Another transmission pipeline, the 51-inch diameter Miramar
12 Pipeline, which purveys water from the Miramar WTP west to Mira
13 Mesa and Del Mar, was built in the 1960's. It was constructed
14 of prestressed concrete steel cylinder pipe and is vulnerable
15 to corrosion and rupture. Prestressed concrete steel cylinder
16 pipe can actually explode from the water pressure if the
17 prestressing wire corrodes and snaps. Two of these failures
18 occurred on the Miramar Pipeline in the last ten years, one
19 section ruptured as recently as 1992.

20
21 Throughout many older sections of the City there are various
22 water mains 16-inch diameter and less that are in critical need
23 of replacement. These water mains were constructed 50 to 70
24 years ago of unlined cast iron pipe and are vulnerable to
25 corrosion and rupture. During 1995, there were approximately
26 300 water main breaks that required the replacement of broken
27 pipe. Numerous other repairs were also required. The City has



1 been gradually replacing unlined cast iron pipe since 1968.
2 There are still approximately 160 miles of unlined cast iron
3 pipe in the system. When funding has been available, 10 to 15
4 miles has been replaced per year. However, due to the work
5 that is needed on the distribution system reservoirs, there is
6 currently very little funding for mainline replacement.

7
8 CROSS-CONNECTION CONTROL PROGRAM

9
10 The compliance agreement (see Attachment No. 2) between DWFOB,
11 and the City of San Diego included a schedule to address the
12 deficiencies in the cross-connection control program including
13 the following:

- 14
15 a) The City had not completed a survey to identify water user
16 premises where cross-connections are likely to occur. In
17 response, WUD increased its cross connection control
18 program staff who perform the surveys from three to ten
19 positions. The City has made progress since 1994,
20 proactively pursuing surveys and requiring backflow
21 protection where appropriate. To date, approximately
22 11,000 of 58,000 sites have been surveyed. The City must
23 continue to make progress on this project, surveying
24 approximately 4500 connections per year. Of special
25 concern are areas of the City where recycled water will be
26 utilized by August 1997. The City WUD staff have done an
27 excellent job, and have recently stated that they have

1 surveyed all connections in the areas where recycled water
2 will be utilized. Now the City must implement whatever
3 corrections are needed to bring those sites into
4 compliance with state regulations.

5
6 b) Per the compliance agreement, WUD has also corrected
7 deficiencies with City-owned backflow prevention devices,
8 conducted surveys of all connections to City-owned
9 facilities, and installed devices where required.

10
11 c) Per the compliance agreement, WUD has also identified all
12 air/vacuum valves vents located below grade. Air/vacuum
13 valves vents located below grade could cause a cross-
14 connection due to flooding or backsiphonage. Vent
15 openings must be extended at least one foot above grade to
16 prevent surface water from being siphoned into the
17 distribution system. The 1993 inspection found air/vacuum
18 valves vents located in vaults, including some that were
19 flooded. The WUD intends to contract out a lot of the
20 work, and is currently preparing plans and bid packages.
21 To date 23 air/vacuum valves vents have been raised above
22 grade. The City has 429 more sites to correct.

23
24 CONCLUSIONS OF LAW

25
26 Based on the above Findings of Fact, the Department finds that
27 the City has violated the following:

DISTRIBUTION RESERVOIRS

Health and Safety Code, Division 5, Part 1, Chapter 7, Article 2, Section 4017 "Operational Requirements" states, "Any person who operates a public water system shall do all of the following: . . . (c) Provide a reliable and adequate supply of pure, wholesome, healthful, and potable water". Due to the structural problems in the reservoirs, as documented in DWFOB's January 1994 inspection report, the City can not assure a reliable supply of water to the potentially affected areas of the city. Critical work on the Bayview and Soledad Reservoirs, which serve approximately 60,000 people, has been delayed many years due to a lack of funding.

California Code of Regulations (CCR), Title 22, Division 4, Chapter 16, Article 2, Section 64560 (a) (1), (2), (5), and (6) requires that the reservoirs be designed and constructed to "be free of structural and sanitary hazards", "protect the quality of the water delivered to users at all times", "withstand, with ample safety factors, the physical stresses imposed during normal operation", and "minimize the effects of ... structural failures, earthquakes...". Although they were constructed to meet these requirements, due to age, deterioration, and lack of adequate maintenance, some of the City's reservoirs no longer meet these basic design requirements.

ALVARADO WATER TREATMENT PLANT

Health and Safety Code, Division 104, Part 12, Chapter 4, Article 3, Section 116300. "Legislative findings" states the following,

"The Legislature finds and declares all of the following:

(a) Every citizen of California has the right to pure and safe drinking water.

(e) This chapter is intended to ensure that the water delivered by public water systems of this state shall at all times be pure, wholesome, and potable. This chapter provides the means to accomplish this objective."

Health and Safety Code, Division 104, Part 12, Chapter 4, Article 3, Section 116360 (C) states, "To thoroughly address the public health risks currently posed by cryptosporidium, in particular, the department shall ensure that its initial cryptosporidium action plan, that has been circulated to public water systems serving more than 1,000 service connections, is comprehensively implemented . . .". The cryptosporidium action plan states the following: The Alvarado WTP does not meet this criteria.

- "The supplier should endorse the idea that a properly designed and operated plant will be able to consistently



1 achieve an effluent turbidity of 0.1 NTU and thereby achieve
2 an effluent quality which presents the lowest pathogen risk
3 to system customers."

4 The Alvarado plant should be optimized to produce water
5 meeting an effluent turbidity goal of 0.1 NTU consistently.
6 This goal has been set by the American Water Works
7 Association (AWWA) also. Since, the Alvarado plant was
8 built over 40 years ago, it has some serious design flaws at
9 a peak flow of 120 MGD (see the attached DWFOB 1996
10 inspection report in Attachment No. 6). As documented in
11 this report (pages 16-19), the plant did not consistently
12 meet an effluent turbidity of 0.1 NTU during 1995.

- 13
- 14 • The cryptosporidium action plan also states that a water
15 treatment plant should operate "unit treatment processes at
16 hydraulic loading rates that will enable meeting
17 optimization goals." The hydraulic loading rate through the
18 flocculation and sedimentation basins is about three times
19 the ASCE/AWWA design parameters at a peak flow of 120 MGD
20 (see pages 27 of the DWFOB 1996 inspection report in
21 Attachment No. 6).
 - 22 • The cryptosporidium action plan also calls for "optimizing
23 the performance of backwash water recovery systems." The
24 backwash water from the filtration process is recycled by
25 discharging it into Lake Murray for settling at a point
26 approximately 400 feet from the intake tower.
- 27

1
2 Health and Safety Code, Division 5, Part 1, Chapter 7, Article
3 2, Section 4017 "Operational Requirements" states, "Any person
4 who operates a public water system shall do all of the
5 following: . . . (c) Provide a reliable and adequate supply of
6 pure, wholesome, healthful, and potable water". Due to the
7 deteriorated condition of the Alvarado WTP and the inability of
8 the plant to meet 0.1 NTU, as documented in DWFOB's 1996
9 inspection report (see Attachments No. 6, 7, and 8), the City
10 can not assure a reliable supply of water to the central areas
11 of the City. Critical work on the Alvarado WTP, which serves
12 approximately 542,000 people, has been delayed many years due
13 to a lack of funding.

14
15 WATER TREATMENT PLANT OPERATIONS

16
17 Section 7107, Group 2, Chapter 5, Title 17, CCR requires a
18 Grade 5 Water Treatment Operator certification for operators
19 with "24 Hours/Day Responsibility (Superintendent, Assistant
20 Superintendent, and Chief Operator)" of a 10 MGD or larger
21 plant capacity.

22
23 Currently, each of the City's water treatment plants has only
24 one operator with a Grade 5 Water Treatment Operator
25 certification. There is no Grade 5 operator to supervise
26 operations if the Senior Water Operations Supervisor is on
27 vacation or otherwise unavailable due various meetings or other



responsibilities required by the job. The Water Operations Supervisor typically supervises 24-hour operations. In order to assure compliance with these regulations a minimum of two Grade V operators is needed for each of the Alvarado, Miramar, and Otay water treatment plants. The City does not meet this requirements.

PUMP PLANTS, TRANSMISSION, AND WATER MAIN PIPELINES

Health and Safety Code, Division 5, Part 1, Chapter 7, Article 2, Section 4017 "Operational Requirements" states, "Any person who operates a public water system shall do all of the following: . . . (c) Provide a reliable and adequate supply of pure, wholesome, healthful, and potable water". Due to the pipelines being vulnerable to corrosion and rupture problems, as documented in the Findings of Fact above, the City can not assure a reliable supply of water to the potentially affected areas of the City. The City of San Diego has six pump plants, several transmission pipelines, and many very old water mains that are in critical need of rehabilitation, repair, or replacement. This work has been delayed due to a lack of funding.

CCR, Title 22, Division 4, Chapter 16, Article 2, Section 64566 (a) requires that "distribution systems be designed to maintain an operating pressure at all service connections of not less than 20 pounds per square inch gauge (psig)". Due to age and

1 deterioration, some of the pump plants may fail to provide the
2 required pressure in the distribution system.

3
4 CCR, Title 22, Division 4, Chapter 16, Article 2, Section 64560
5 (a) (5) requires that pipelines be designed and constructed to
6 "withstand, with ample safety factors, the physical stresses
7 imposed during normal operation". Although they were
8 constructed to meet these requirements, due to age, corrosion,
9 and deterioration, some of the City's pipelines no longer meet
10 these basic design requirements.

11
12 CROSS-CONNECTION CONTROL PROGRAM

13
14 Health and Safety Code, Division 5, Part 1, Chapter 7, Article
15 2, Section 4017 "Operational Requirements" states, "Any person
16 who operates a public water system shall do all of the
17 following: . . . (b) Ensure that the system will not be subject
18 to backflow under normal operating conditions". Section 7525,
19 Group 4, Chapter 5, Title 17, CCR requires that "The water
20 supplier shall evaluate the degree of potential health hazard
21 to the public water supply which may be created as a result of
22 conditions existing on a user's premises". The City has made
23 significant progress, but still has a backlog of forty-seven
24 thousand connections to survey and evaluate.

25
26 CCR, Title 22, Division 4 "Environmental Health", Chapter 16
27 "California Waterworks Standards", Article 5, Section 64636 (a)



(1) states, "Vent openings for air and vacuum relief and air release valves shall be extended at least one foot (0.3 meters) above grade and above maximum recorded high water." There are currently 429 air/vacuum valve vents that are in below ground vaults, which must be raised above grade because of the potential for the vaults to collect rainfall.

ORDER

Pursuant to Section 116655, Article 9, Chapter 4, Part 12, Division 104 of the California Health and Safety Code (H&S Code), the Department hereby orders Respondents, the City of San Diego, to do the following to ensure that the water supplied is at all times pure, wholesome, healthful, and potable:

1. The City shall submit a plan to provide funding to complete the items in this compliance order by April 30, 1997.
2. The plan to provide funding to complete the items in this compliance shall be approved by the City Council by June 30, 1997.
3. At least quarterly, the City shall submit a progress report on the status of each item in the compliance order.

A meeting with the Department may be substituted for a progress report:

RESERVOIRS

4. For Redwood Village SP, the City shall complete rehabilitation of the reservoir by April 30, 1997.
5. For Paradise Hills SP, the City shall complete demolition of the reservoir by October 10, 1997.
6. For South San Diego CCR, the City shall submit the plan for the structural rehabilitation by December 31, 1997.
7. For Point Loma CR, the City shall submit the drawings for rehabilitation of the reservoir by March 2, 1998.
8. For Rancho Bernardo CCR, the City shall submit the drawings for the structural work by May 29, 1998.
9. For Bayview CCR, the City shall submit the drawings for the construction of the new replacement reservoir by June 16, 1998.
10. For Point Loma CR, the City shall begin rehabilitation of the reservoir by September 1, 1998.



1 11. For Bayview CCR, the City shall begin construction of the
2 new replacement reservoir by October 20, 1998.

3
4 12. For Rancho Bernardo CCR, the City shall begin construction
5 by November 30, 1998.

6
7 13. For Point Loma CR, the City shall complete rehabilitation
8 of the reservoir by July 6, 1999.

9
10 14. For Rancho Bernardo CCR, the City shall complete
11 construction of the structural work by March 31, 2000.

12
13 15. For Penasquitos PCT, the City shall submit the drawings
14 for the structural work by May 4, 2000.

15
16 16. For San Carlos PCT, the City shall submit the drawings for
17 the structural work by May 9, 2000.

18
19 17. For Soledad PCT, the City shall submit the drawings for
20 the construction of the new replacement reservoir by
21 August 1, 2000.

22
23 18. For Bayview CCR, the City shall complete construction of
24 the new replacement reservoir by October 30, 2000.

25
26 19. For San Carlos PCT, the City shall begin construction by
27 October 31, 2000.

1
2 20. For Penasquitos PCT, the City shall begin construction of
3 by November 30, 2000.

4
5 21. For Soledad PCT, the City shall begin construction of the
6 new replacement reservoir by December 1, 2000.

7
8 22. For Penasquitos PCT, the City shall complete construction
9 of the structural work by April 30, 2001.

10
11 23. For Soledad PCT, the City shall complete construction of
12 the new replacement reservoir by March 1, 2002.

13
14 24. For San Carlos PCT, the City shall complete construction
15 of the structural work by April 19, 2002.

16
17 ALVARADO WATER TREATMENT PLANT

18
19 25. For the Alvarado WTP, the City shall submit the revised
20 plan to break up the construction into different phases by
21 February 28, 1998.

22
23 26. For the Alvarado WTP, Earl Thomas Demolition (currently
24 Phase D), the City shall begin the work by February 28,
25 1998.

1 27. For the Alvarado WTP, College Ranch Pump Plant (currently
2 Phase C), the City shall begin construction by April 30,
3 1998.

4
5 28. For the Alvarado WTP, Operations Building (currently Phase
6 B), the City shall begin construction by November 30,
7 1998.

8
9 29. For the Alvarado WTP, Earl Thomas Demolition (currently
10 Phase D), the City shall complete the work by November 30,
11 1999.

12
13 30. For the Alvarado WTP, Filters (currently Phase E), the
14 City shall begin construction by November 30, 1999.

15
16 31. For the Alvarado WTP, College Ranch Pump Plant (currently
17 Phase C), the City shall complete construction by November
18 30, 1999.

19
20 32. For the Alvarado WTP, Operations Building (currently Phase
21 B), the City shall complete construction by January 23,
22 2001.

23
24 33. For the Alvarado WTP, New Basins (currently Phase F), the
25 City shall open bids for the construction by October 1,
26 2001.

1 34. For the Alvarado WTP, New Basins (currently Phase F), the
2 City shall begin construction by November 30, 2001.

3
4 35. For the Alvarado WTP, Filters (currently Phase E), the
5 City shall complete construction by November 30, 2001.

6
7 36. For the Alvarado WTP, New Basins (currently Phase F), the
8 City shall complete construction by December 1, 2003.

9
10 WATER TREATMENT PLANT OPERATIONS

11
12 37. The City shall do everything within its power to optimize
13 treatment at all of the City's water treatment plants, in
14 order to produce an effluent turbidity goal of 0.1 NTU in
15 95% of the samples required every four hours, determined
16 on a monthly basis.

17
18 38. Due to the size of the plants, their age, and the
19 commitment to optimizing treatment to meet a 0.1 NTU goal,
20 all operators with 24 hours per day responsibility are
21 required to have a minimum Grade 5 certificate.
22 Specifically, by December 31, 1997, a minimum of two
23 operators with a Grade 5 Water Treatment Operator
24 certification shall be assigned to work full-time at each
25 water treatment plant. In addition, the superintendent
26 supervising the three water treatment plants shall possess
27 a Grade 5 Water Treatment Operator certification.

PUMP PLANTS

39. For the Bayview PP, the City shall submit the drawings for construction by February 11, 1998.

40. For the Deerfield PP, the City shall submit the drawings for construction by March 26, 1998.

41. For the Bayview PP, the City shall begin construction by July 1, 1998.

42. For the San Carlos PP, the City shall submit the drawings for construction by July 6, 1998.

43. For the Deerfield PP, the City shall begin construction by September 30, 1998.

44. For the San Carlos PP, the City shall begin construction by December 15, 1998.

45. For the Bayview PP, the City shall complete construction by December 31, 1998.

46. For the 65th & Herrick PP, the City shall submit the drawings for construction by December 31, 1998.

1 47. For the 65th & Herrick PP, the City shall begin
2 construction by July 2, 1999.

3
4 48. For the San Carlos PP, the City shall complete
5 construction by December 15, 1999.

6
7 49. For the Deerfield PP, the City shall complete construction
8 by December 30, 1999.

9
10 50. For the 65th & Herrick PP, the City shall complete
11 construction by May 15, 2000.

12
13 51. For the Alvarado PP, the City shall submit the drawings
14 for construction by September 12, 2000.

15
16 52. For the Catalina PP, the City shall submit the drawings
17 for construction by December 29, 2000.

18
19 53. For the Alvarado PP, the City shall begin construction by
20 March 29, 2001.

21
22 54. For the Catalina PP, the City shall begin construction by
23 June 1, 2001.

24
25 55. For the Catalina PP, the City shall complete construction
26 by May 31, 2002.



1 56. For the Alvarado PP, the City shall complete construction
2 by June 27, 2003.

3
4 TRANSMISSION PIPELINES

5
6 57. For the Miramar Pipeline Improvement Phase II, the City
7 shall submit the drawings for construction by February 2,
8 1998.

9
10 58. For the Miramar Pipeline Improvement Phase II, the City
11 shall begin construction by July 15, 1998.

12
13 59. For the Otay 2 Pipeline, south of State Route 94, the City
14 shall submit an alignment and phasing program by July 15,
15 1998.

16
17 60. For the Otay 2 Pipeline, north of State Route 94, the City
18 shall submit the drawings by February 1, 1999.

19
20 61. For the Miramar Pipeline Improvement Phase III, the City
21 shall submit the drawings by March 16, 1999.

22
23 62. For the Miramar Pipeline Improvement Phase II, the City
24 shall complete construction by July 15, 1999.

25
26 63. For the Otay 2 Pipeline north of State Route 94, the City
27 shall begin construction by July 15, 1999.

1
2 64. For the Miramar Pipeline Improvement Phase III, the City
3 shall begin construction by November 1, 1999.

4
5 65. For the Otay 2 Pipeline north of State Route 94, the City
6 shall complete construction by July 14, 2000.

7
8 66. For Bonita Pipeline Phase II, the City shall submit the
9 drawings by May 10, 2001.

10
11 67. For the Bonita Pipeline Phase II, the City shall begin
12 construction by October 31, 2001.

13
14 68. For the Bonita Pipeline Phase II, the City shall complete
15 construction by October 1, 2003.

16
17 69. For the Miramar Pipeline Improvement Phase IV, the City
18 shall submit the drawings by March 17, 2004.

19
20 70. For the Miramar Pipeline Improvement Phase III, the City
21 shall complete construction by June 30, 2004.

22
23 71. For the Miramar Pipeline Improvement Phase IV, the City
24 shall begin construction by November 1, 2004.

25
26 72. For the Miramar Pipeline Improvement Phase IV, the City
27 shall complete construction by June 30, 2008.



WATER MAIN PIPELINES

73. The City shall award contracts for construction of at least ten miles of water main replacement per fiscal year, starting July 1, 1997.

74. Every six months, the City shall submit evidence of adequate progress toward compliance with item number 73.

CROSS-CONNECTION CONTROL PROGRAM

75. The City shall submit documentation to demonstrate compliance with state regulations regarding cross-connection control, in all areas of the City that will be served by recycled water, by June 30, 1997.

76. The City shall not supply recycled water within their service area, until the City's cross-connection control program is determined to be in compliance with state regulations, in all areas of the City that will be served by recycled water. "In compliance with state regulations" means the City continues implementing the six required elements of a cross-connection control program required by Section 7584, Group 4, Chapter 5, Title 17, California Code of Regulations. Nothing in this directive shall be

1 construed to deter or delay the construction of water
2 reclamation facilities.

3
4 77. To insure that there are no cross connections between the
5 reclaimed water piping and the potable water piping, a
6 shutdown test must be performed by WUD and witnessed by
7 the San Diego County Environmental Health Department or
8 DWFOB, prior to delivery of any reclaimed water to any use
9 site, and every four years thereafter. Annually, the
10 potable water purveyor must visually inspect the site and
11 review any changes in piping with the user supervisor.

12
13 78. Each recycled water use site must have an adequately
14 trained user supervisor in order to control the on-site
15 piping and prevent any cross connections. The user
16 supervisor must keep as-built plans up to date and on the
17 site.

18
19 79. The City shall start work on the remaining 429 air and
20 vacuum relief valves and air release valves in the City's
21 water system, that must have their vents raised above
22 grade, by February 28, 1997.

23
24 80. The City shall complete work on thirty percent of the
25 remaining 429 air and vacuum relief valves and air release
26 valves in the City's water system, that must have their
27 vents raised above grade, by February 28, 1999.

1
2 81. The City shall complete work on sixty percent of the
3 remaining 429 air and vacuum relief valves and air release
4 valves in the City's water system, that must have their
5 vents raised above grade, by February 28, 1999.

6
7 82. The City shall complete the cross-connection control
8 survey in all areas of the City (to determine the need for
9 backflow protection at all service connections) by June
10 30, 2007.

11
12 83. Every six months, the City shall submit documentation to
13 demonstrate adequate progress toward compliance with item
14 number 82.

15
16 DWFOB reserves the right to modify this Order as deemed
17 necessary to protect public health and safety. Such
18 modifications may be issued as amendments to this Order and
19 shall be effective upon issuance.

20
21 All submittals to DWFOB required by this Order shall be
22 addressed to:

23 Toby J. Roy, P.E.

24 District Engineer

25 Drinking Water Field Operations Branch

26 1350 Front Street, Room 2050

27 San Diego, CA 92101

TERM

This Order shall become effective as of the date hereof. If the City is unable to perform the tasks specified in this Order for any reason, whether within or beyond the City's control, and if the City notifies DWFOB in writing no less than ninety days in advance of the due date, DWFOB may extend the time for performance if the City demonstrates that they have made their best efforts to comply with the schedules and other requirements of this Order. If the City fails to perform any of the tasks specified in this Order by the time described herein or by the time as subsequently extended pursuant to this paragraph, the City shall be deemed to have failed to comply with the obligations of this Order and may be subject to additional judicial action, including civil penalties specified in Health and Safety Code, Section 116725.

The State of California shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by the City, its employees, agents, or contractors in carrying out activities pursuant to this Order, nor shall the State of California be held as a party to any contract entered into by the City or its agents in carrying out activities pursuant to this Order. By issuance of this Order, DWFOB does not waive any further enforcement actions.

PARTIES BOUND

This Order shall apply to and be binding upon the City, its officers, directors, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The requirements of this Compliance Order are severable, and the City shall comply with each and every provision thereof notwithstanding the effectiveness of any provision. Should any part, term or provision of the Order be decided by the Courts to be illegal or in conflict with any law of the State of California, or otherwise rendered unenforceable or ineffectual, the validity of the remaining portions or provisions shall not be affected thereby.

11/17/97
Date

Gary Yamamoto
Gary Yamamoto, P.E.
Chief
South Coastal Region
Drinking Water
Field Operations Branch

Attachments:

1. January 25, 1994 letter on the 1993 DWFOB inspection
2. Compliance Agreement No. 04-14- 94CO-004
3. Photographs of distribution system reservoirs
4. Dept. of Health Services Cryptosporidium Action Plan
5. July 31, 1996 letter on the Alvarado Plant inspection
6. Alvarado Surface Water Treatment Rule Evaluation Report
7. Photographs of deteriorating equipment at Alvarado
8. Photographs of structural deficiencies at Alvarado

9701CO.DOC\City of San Diego Disk 3\BPS



California
Department of
Health Services

SANDRA SHEWRY
Director

April 27, 2004

Mr. Larry Gardner
Water Department Manager
City of San Diego
202 C Street
San Diego, Ca 92101

State of California—Health and Human Services Agency
Department of Health Services



DCR: 2004-001482



ARNOLD SCHWARZENEGGER
Governor

RECEIVED CIP

APR 30 2004

Records Management

**CITY OF SAN DIEGO, SYSTEM NO. 3710020
AMENDMENT #10 TO COMPLIANCE ORDER 04-14-96CO-022**

Dear Mr. Gardner,

Per the City of San Diego's (City) letter dated March 17, 2004, which is attached, the Department of Health Services, Division of Drinking Water and Environmental Management, Field Operations Branch, (Department) has reviewed your request for an extension to fulfill some of the requirements of Compliance Order No. 04-14-96CO-022. Amendment Number 9 was issued June 25, 2003 and addressed changes in the schedule for the projects.

The justifications for these changes include a different scope of work, funding, and scheduling issues, which have been discussed with the Department at previous meetings. In addition, some items regarding the Alvarado water treatment plant have been added in order to avoid confusion. Ozone equipment for both the Miramar and Alvarado Water Treatment Plants will have the same schedule. Therefore, the changes in Compliance Order No. 04-14-96CO-022 and Amendment Number 9 must be made.

In order to avoid confusion and facilitate tracking of the schedule, all of the projects are listed, whether the date was changed or not. The directives that have been changed are indicated by underlined text. The Department approves the City's request to change the schedule, as reflected in the following directives:

- No. 1 The City shall submit a plan to provide funding to complete the items in this compliance order by April 30, 1997. **(Completed).**
- No. 2 The plan to provide funding to complete the items in this compliance shall be approved by the City Council by August 12, 1997. **(Completed).**
- No. 3 At least quarterly, the City shall submit a progress report on the status of each item in the compliance order. A meeting with the Department may be substituted for a progress report.

- No. 4 For Redwood Village SP, the City shall complete rehabilitation of the reservoir by April 30, 1997. (Completed).
- No. 5 For Paradise Hills SP, the City shall complete demolition of the reservoir by October 10, 1997. (Completed).
- No. 6 For Otay Water Treatment Plant Clearwell (formerly South San Diego CCR), the City shall submit the plan for the structural rehabilitation by October 24, 2002. (Completed).
- No. 6a For Otay Water Treatment Plant Clearwell (formerly South San Diego Reservoir No. 2), the City shall submit plans by May 16, 2001. (Completed).
- No. 6b For Otay Water Treatment Plant Clearwell (formerly South San Diego Reservoir No. 2), the City shall begin construction by April 30, 2003. (Completed).
- No. 6c For Otay Water Treatment Plant Clearwell (formerly South San Diego Reservoir No. 2), the City shall end construction by April 1, 2005.
- No. 7 For Point Loma CR, the City shall submit the drawings for rehabilitation of the reservoir by April 26, 1999. (Completed).
- No. 8 For Rancho Bernardo CCR, the City shall submit the drawings for structural rehabilitation work by June 30, 2006 ~~December 31, 2005~~.
- No. 8a For Black Mountain Reservoir, the City shall submit plans by May 1, 2000. (Completed).
- No. 8b For Black Mountain Reservoir, the City shall begin construction by September 1, 2000. (Completed).
- No. 8c For Black Mountain Reservoir, the City shall end construction by December 31, 2001. (Completed).
- No. 9 For Bayview CCR, the City shall submit the drawings for construction of the new replacement reservoir by February 1, 2000. (Completed).
- No. 10 For Point Loma CR, the City shall begin rehabilitation of the reservoir by September 27, 1999. (Completed).
- No. 11 For Bayview CCR, the City shall begin construction of the new replacement reservoir by October 2, 2000. (Complete).
- No. 12 For Rancho Bernardo CCR, the City shall begin rehabilitation of the reservoir construction by December 31, ~~2005~~ 2006.

- No. 13 For Point Loma CR, the City shall complete rehabilitation of the reservoir by May 16, 2000. (Completed).
- No. 14 For Rancho Bernardo CCR, the City shall complete rehabilitation of the reservoir ~~construction of the structural work~~ by January 31, ~~2007~~ 2008.
- No. 15 For Penasquitos PCT, the City shall submit the drawings for the structural work by May 4, 2001. (Completed).
- No. 16 For San Carlos PCT, the City shall submit the drawings for the structural work by October 2, 2000. (Complete).
- No. 17 For Soledad PCT, the City shall submit the drawings for the construction of the new replacement reservoir by February 1, 1999. (Completed).
- No. 18 For Bayview CCR, the City shall complete construction of the new replacement reservoir by April 30, 2002. (Completed).
- No. 19 For San Carlos PCT, the City shall begin construction by May 1, 2001. (Completed).
- No. 20 For Penasquitos PCT, the City shall begin construction by November 30, 2001. (Completed).
- No. 21 For Soledad PCT, the City shall begin construction of the new replacement reservoir by September 1, 1999. (Completed).
- No. 22 For Penasquitos PCT, the City shall complete construction of the structural work by December 28, 2002. (Completed).
- No. 23 For Soledad PCT, the City shall complete construction of the new replacement reservoir by September 1, 2000. (Completed).
- No. 24 For San Carlos PCT, the City shall complete construction of the structural work by November 1, 2002. (Completed).
- No. 25 For Alvarado WTP, the City shall submit the revised plan to break up the construction into different phases. (Completed).
- No. 26 For Alvarado WTP, Begin construction of the Earl Thomas Reservoir by February 1, 2003. (Completed).
- No. 27 For Alvarado WTP, College Ranch Pump Plant (currently Phase C), the City shall begin construction by November 30, 2001. (Completed).

- No. 28 For Alvarado WTP, Operations Building (currently Phase B), the City shall begin construction by November 30, 2001. **Work Deleted (Amendment 6).**
- No. 29 For Alvarado WTP, End construction of the Earl Thomas Reservoir by July 1, 2005.
- No. 30 For Alvarado WTP, Filters (currently Phase E), the City shall begin construction by November 30, 1998. **(Completed).**
- No. 31 For Alvarado WTP, College Ranch Pump Plant (currently Phase C), the City shall complete construction by December 1, 2003. **(Completed).**
- No. 32 For Alvarado WTP, Operations Building (currently Phase B), the City shall complete construction by December 1, 2003. **Work Deleted (Amendment 6).**
- No. 33 For Alvarado WTP, New Basins (currently Phase F), the City shall open bids for the construction by December 1, 2003. **(Completed).**
- No. 34 For Alvarado WTP, New Basins (currently phase F), the City shall begin construction by April 1, 2004. **(Completed).**
- No. 35 For Alvarado WTP, Filters (currently Phase E), the City shall complete construction by November 30, 2001. **(Completed).**
- No. 36 For Alvarado WTP, New Basins (currently Phase F), the City shall complete construction by December 1, 2006.
- No. 37 The City shall do everything within its power to optimize treatment at all of the City's water treatment plants, in order to produce an effluent turbidity goal of 0.1 NTU in 95% of the samples required every four hours, determined on a monthly basis.
- No. 38 Due to the size of the plants, their age, and the commitment to optimizing treatment to meet a 0.1 NTU goal, all operators with 24 hours per day responsibility are required to have a minimum Grade 5 certificate. Specifically, a minimum of two operators with a Grade 5 Water Treatment Operator certification shall be assigned to work full-time at each water treatment plant. In addition, the superintendent supervising the three water treatment plants shall possess a Grade 5 Water Treatment Operator certification. This shall be implemented by the following schedule:
- a) By April 1, 1999, the City shall submit an interim and draft long-term plan and time schedule for compliance. **(Completed).**
 - b) By July 1, 1999, the City shall submit a final long-term plan and time schedule for compliance. **(Completed).**

April 27, 2004

- No. 39 For Bayview PP, the City shall submit the drawings for construction by October 15, 1998. (Completed).
- No. 40 For Deerfield PP, the City shall submit the drawings for construction by June 1, 1999. (Completed).
- No. 41 For Bayview PP, the City shall begin construction by December 1, 1998. (Completed).
- No. 42 For Del Cerro Highlands PP (formerly San Carlos PP) the City shall submit the drawings for by July 31, 1998. (Completed).
- No. 43 For Deerfield PP, the City shall begin construction by December 1, 1999. (Completed).
- No. 44 For Del Cerro Highlands PP (formerly San Carlos PP), the City shall begin construction by December 15, 1998. (Completed).
- No. 45 For Bayview PP, the City shall complete construction by July 1, 1999. (Completed).
- No. 46 For 65th & Herrick PP, the City shall submit the drawings for construction by December 31, 1998. (Completed).
- No. 47 For 65th & Herrick PP, the City shall begin construction by July 2, 1999. (Completed).
- No. 48 For Del Cerro Highlands PP (formerly San Carlos PP), the City shall complete construction by December 15, 1999. (Completed).
- No. 49 For Deerfield PP, the City shall complete construction by December 29, 2000. (Completed).
- No. 50 For 65th & Herrick PP, the City shall complete construction by May 30, 2001. (Completed).
- No. 51 For Adobe Falls PS (formerly Alvarado PP), the City shall submit the drawings for construction by July 31, 2001. (Completed).
- No. 52 For Catalina PP, the City shall submit the drawings for construction by January 5, 2002. (Completed).
- No. 53 For the Adobe Falls PS (formerly Alvarado PP), the City shall begin construction by January 31, 2002. (Completed).

- No. 54 For the Catalina PP, the City shall begin construction December 27, 2002. (Completed).
- No. 55 For the Catalina PP, the city shall complete construction December 31, 2004. (Completed).
- No. 56 For the Adobe Falls PS (formerly Alvarado PP), the City shall complete construction by March 31, 2003. (Completed).
- No. 57 For the Miramar Pipeline Improvement Phase II, the City shall submit the drawings for construction by September 1, 1998. (Completed).
- No. 58 For the Miramar Pipeline Improvement Phase II, the City shall begin construction by November 2, 1998. (Completed).
- No. 59 The City shall submit an alignment and phasing program for the entire Otay 2 Pipeline by June 8, 2000. (Completed).
- No. 60 For the Otay 2 Pipeline, north of State Route 94, the City shall submit the drawings by June 8, 1999. Work Deleted (Amendment 5).
- No. 61 For Miramar Pipeline Improvement Phase III, the City shall submit the drawings by October 1, 2006.
- No. 62 For the Miramar Pipeline Improvement Phase II, the City shall complete construction by April 3, 2000. (Completed).
- No. 63 For the Otay 2 Pipeline north of State Route 94, the City shall begin construction by December 16, 1999. Work Deleted (Amendment 5).
- No. 64 For the Miramar Pipeline Improvement Phase III, the City shall begin construction by March 1, 2007.
- No. 65 For the Otay 2 Pipeline north of State Route 94, the City shall complete construction by January 4, 2001. Work Deleted (Amendment 5).
- No. 66 For the Bonita Pipeline Phase II, the City shall submit the drawings by May 10, 2001. (Completed).
- No. 67 For the Bonita Pipeline Phase II, the City shall begin construction by October 31, 2001. (Completed).
- No. 68 For the Bonita Pipeline Phase II, the City shall complete construction by October 1, 2003. (Completed).

- No. 69 For the Miramar Pipeline Improvement Phase IV, the City shall submit the drawings by October 1, 2006.
- No. 70 For the Miramar Pipeline Improvement Phase III, the City shall complete construction by November 30, 2008.
- No. 71 For the Miramar Pipeline Improvement Phase IV, the City shall begin construction by March 3, 2007.
- No. 72 For the Miramar Pipeline Improvement Phase IV, the City shall complete construction by October 30, 2008.
- No. 73 The City shall award contracts for construction of at least ten miles of water main replacement per fiscal year, starting July 1, 1998.
- No. 74 Every six months, the City shall submit evidence of adequate progress toward compliance with item number 73.
- No. 75 The City shall submit documentation to demonstrate compliance with state regulations regarding cross-connection control, in all areas of the City that will be served by recycled water, by June 30, 1997. (Completed).
- No. 76 The City shall not supply recycled water within their service area, until the City's cross-connection control program is determined to be in compliance with state regulations, in all areas of the City that will be served by recycled water. "In compliance with state regulations" means the City continues implementing the six required elements of a cross-connection control program required by Section 7584, Group 4, Chapter 5, Title 17, California Code of Regulations. Nothing in this directive shall be construed to deter or delay the construction of water reclamation facilities.
- No. 77 To insure that there are no cross connections between the reclaimed water piping and the potable water piping, a shutdown test must be performed by WUD and witnessed by the San Diego County Environmental Health Department or DWFOB, prior to delivery of any reclaimed water to any use site, and every four years thereafter. Annually, the potable water purveyor must visually inspect the site and review any changes in piping with the user supervisor.
- No. 78 Each recycled water use site must have an adequately trained user supervisor in order to control the on-site piping and prevent any cross connections. The user supervisor must keep as-built plans up to date and on the site.
- No. 79 By February 28, 1997, the city shall start work on the remaining 429 air and vacuum relief valves and air release valves in the City's water system, that must have their vents raised above grade. (Completed).

- No. 80 The City shall complete work on thirty percent of the remaining 429 air and vacuum relief valves and air release valves in the City's water system, that must have their vents raised above grade, by July 28, 1999. (Completed).
- No. 81 The city shall complete work on sixty percent of the remaining 429 air and vacuum relief valves and air release valves in the city's water system, that must have their vents raised above grade, by July 28, 2000. (Completed).
- No. 82 The City shall complete the cross-connection control survey in all areas of the City (to determine the need for backflow protection at all service connections) by June 30, 2007.
- No. 83 Every six months, the City shall submit documentation to demonstrate adequate progress toward compliance with item number 82.
- No. 84 The City shall complete construction of the Black Mountain Road Pipelines by September 30, 2004 ~~December 31, 2003~~.
- No. 85 The City shall begin construction of the Rancho Bernardo Pump Station by December 31, 2006.
- No. 86 The City shall end construction of the Rancho Bernardo Pump Station by December 31, 2007.
- No. 87 The City shall start construction of the Miramar Water Treatment Plant Contract A (consisting of construction of Pre-Treatment Facilities, Filtration Facilities, Chemical Facilities, Ozone Contactors and Administration Building and demolition of Flocculation and Sedimentation Basin No. 4) by June 12, 2004.
- No. 88 The City shall complete construction of the Miramar Water Treatment Plant Contract A (consisting of construction of Pre-Treatment Facilities, Filtration Facilities, Chemical Facilities, Ozone Contactors and Administration Building and demolition of Flocculation and Sedimentation Basin No. 4) by June 30, 2008.
- No. 89 The City shall start construction of the Miramar Water Treatment Plant Contract B (consisting of construction of three Flocculation and Sedimentation Basins, demolition of Flocculation and Sedimentation Basin No. 3 and rehabilitation of the operations building) by January 31, 2007.
- No. 90 The City shall complete construction of the Miramar Water Treatment Plant Contract B (consisting of construction of three Flocculation and Sedimentation Basins, demolition of Flocculation and Sedimentation Basin No. 3 and rehabilitation of the operations building) by December 31, 2009.


Mr. Larry Gardner
Page 9 of 9
April 27, 2004

Compliance Order No. 04-14-96CO-022, Amendment No. 10

- No. 91 The City shall start construction of the Miramar Water Treatment Plant Contract C (consisting of Ozone equipment) by February 8, 2008.
- No. 92 The City shall complete construction of the Miramar Water Treatment Plant Contract C (consisting of Ozone equipment) by November 30, 2009.
- No. 93 The City shall begin construction of the Otay 2nd Pipeline, I-15 to 54th Street by December 31, 2004.
- No. 94 The City shall complete construction of the Otay 2nd Pipeline, I-15 to 54th Street by December 31, 2006.
- No. 95 The City shall start construction of the Alvarado Water Treatment Plant Ozone equipment by February 8, 2008.
- No. 96 The City shall complete construction of the Alvarado Water Treatment Plant Ozone equipment by November 30, 2009.

This document amends Compliance Order No. 04-14-96CO-022. All other directives remain unchanged. This amendment to Compliance Order No. 04-14-96CO-022 is effective upon issuance. If you have any questions regarding this amendment letter, please contact me at (619) 525-4497.

Sincerely,



Brian Bernados, P.E.
District Engineer

Enclosure: City of San Diego letter dated March 17, 2004

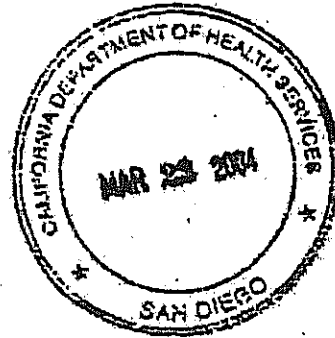
cc: San Diego County Health Department

Mark Stone
Deputy Director, Water Operations
2797 Caminito Chollas, MS 43
San Diego, CA 92105-5097

✓ Vic Bienes
Capital Improvements Program
600 B Street, Suite 700, MS 907
San Diego, CA 92101-4506



THE CITY OF SAN DIEGO



March 17, 2004

Mr. Brian Bernados, District Engineer
Department of Health Services
Drinking Water Field Operations Branch
1350 Front Street, Room 2050
San Diego, CA 92101

Dear Mr. Bernados:

Subject: Revised Request for Amendment No. 10 to Compliance Order 04-14-96-022

The Water Department continues to make progress with its Capital Improvements Program to meet the requirements of Compliance Order No. 04-14-96CO-022 issued by the Department of Health Services. As we discussed in our meeting with you on March 16, 2004, we have completed approximately 75% of the Compliance Order Items.

As we agreed in the meeting on March 16, 2004, we are revising our request for Amendment No. 10, which was originally submitted to you on August 4, 2003.

While we have had success in meeting most of the dates required by the Compliance Order, as discussed in your meeting with the CIP staff, we request that you consider issuing a tenth amendment to adjust the following items as shown:

No. 8 for Rancho Bernardo Reservoir - The City shall submit the drawings for the rehabilitation of the reservoir by June 30, 2006.

No. 12 for Rancho Bernardo Reservoir - The City shall begin construction of the rehabilitation of the reservoir by December 31, 2006.

No. 14 for Rancho Bernardo Reservoir - The City shall complete the construction of the rehabilitation of the reservoir by January 31, 2008.

No. 84 for Black Mountain Road Pipelines - The City shall complete the construction of the Black Mountain Road Pipelines by September 30, 2004.



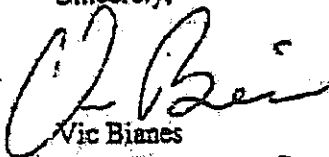
Page 2

Mr. Brian Bernados, District Engineer

March 17, 2004

If you have any questions regarding our request, please call me at (619) 533-6600.

Sincerely,

A handwritten signature in dark ink, appearing to read "Vic Bienes", written over a horizontal line.

Vic Bienes

Water Department Deputy Director

GFW/rp

cc: Larry Gardner, Water Department Director
Mark Stone, Deputy Director, Water Operations Division
Jeff Weien, Engineering Program Manager, Parsons



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Office of the Mayor
City of San Diego

Independent Accountant's Report on Agreed-Upon Procedures
Applied to Use of Wastewater Fund Bond Proceeds

We have applied the procedures enumerated below to the City of San Diego's Wastewater Fund bond proceeds. These procedures, which were agreed to by the City of San Diego were performed solely to assist the City in determining the allowability of the uses of bond proceeds.

This engagement to apply agreed-upon procedures was performed in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of the specified users of the report. Consequently, we make no representations regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The procedures performed and the results of those procedures were as follows:

ANALYSIS OF SOURCES AND USES OF DEBT PROCEEDS
SEWER REVENUE BONDS

1. We reviewed the Indenture of the \$152,000,000 Public Facilities Financing Authority of the City of San Diego Non-Transferable Subordinated Sewer Revenue Bonds, Series 2004. We compared the bond proceeds per the Indenture to a detailed listing of capital projects funded by the bond proceeds (Project Status Report).

Results: The bond proceeds per the indenture were \$152,000,000. The expended bond proceeds per the Project Status Report were \$152,219,032. The expended amounts exceeded the original proceeds of the bonds due to additional resources generated through investment earnings on unspent bond proceeds.

2. We agreed the total expenditures per the Project Status Report (\$152,219,032) to the cumulative expenditures recorded in the Public Facilities Financing Authority construction fund.

Results: No exceptions were noted.

3. We reviewed the Master and Supplemental Installment Purchase Agreements to identify the listing of bond approved capital projects. We also reviewed the Master Installment Purchase Agreement to identify the procedures for modifying the listing of capital projects.

Results: Exhibit A of the Installment Purchase Agreement defines the components of the bond funded project as follows:

The 2004 components consist of certain capital improvements to (1) the City's Metropolitan System including improvements to certain interceptor lines, the Point Loma Treatment Facility, North City System, South Bay System, Wastewater Management Computer Network (COMNET) and the City's wastewater laboratory facilities and (2) the City's Municipal System including replacement and upgrading of certain pipelines, sewer mains, trunk sewer lines and pump stations.

The Master Installment Purchase Agreement, dated September 1, 1993, describes the procedures for changing projects as follows:

From time to time and at any time, the City may modify or amend the description of the project, to eliminate any part thereof and/or substitute another project or projects, all without obtaining any consent, by filing an amended Exhibit A with the Authority and the Trustee; provided however, that no such amendment shall substitute a project or projects which are not to be owned by the Sewer Revenue Fund.

The City has interpreted Exhibit A to include all capital projects listed in the City Council approved CIP budget for the Sewer Revenue Fund and all capital projects funded with the Muni and Metro interim financing proceeds. Accordingly, the City did not file an amended Exhibit A with the Corporation and the Trustee. The bond documents did not specifically provide for this interpretation of the substitution requirement. We recommend that future debt issuances explicitly acknowledge the acceptability of this interpretation in the list of authorized projects for that debt issue..

4. We obtained the Project Status Report for the bonds that lists actual expenditures, by project, funded with bond proceeds. We compared the list of bond approved projects to the list of actual expenditures by project (*Schedule 1*). We differentiated between those projects originally identified as eligible for debt financing versus (Muni and Metro 2004 capital projects) those projects included in the annual CIP budget for the Sewer Fund, projects included in amendments to the annual CIP budget, and other projects. We also identified the portion of each project's expenditures that were "debt financed" versus the portion that was "financed with other funding sources."

Results: Schedule 1 provides the above detail by project. The following is a summary of Schedule 1:

Muni and Metro 2004 projects	\$ 70,773,464	46.49%
Annual CIP budget projects	81,111,239	53.29%
Other expenditures	<u>334,329</u>	<u>.22%</u>
Total	<u>\$152,219,032</u>	<u>100.00%</u>

The "other expenditures" of \$334,329 noted on the previous page are for legal fees associated with the abandoned issuance of the 2003 Sewer Bonds. The City obtained documentation from the 2004 Sewer Bonds' council, Hawkins Delafield & Wood, LLP, stating that since the 2004 bonds were being issued for the same purpose as the 2003 bonds, the costs associated with the 2003 bonds are eligible for reimbursement by the 2004 bonds.

5. We selected a sample of 10 projects (accounting for 33% of total expenditures) for additional testing. The sample included all projects with expenditures of over \$5 million and four projects selected judgmentally. From the sample of 10 projects, we selected 37 transactions (accounting for over \$9 million and 6% of total expenditures) and performed the following procedures:

- a. We determined that the project description noted on the vendor invoice agreed to the project description noted on the Project Status Report.
- b. We determined that the amount of bond expenditures per the Project Status Report agreed to the amount the City paid to the vendor.
- c. We determined that the documentation was sufficient to support the charge to the bond.

Results: One charge totaling \$132,908 was a journal voucher correcting a misposting to another project. The journal voucher was supported by an e-mail from an Associate Management Analyst.

Recommendation: We recommend that the individuals initiating correcting journal entries provide documentation supporting the amount of the adjustment. The documentation should be attached to the journal voucher. The documentation for transactions posted to the general ledger should stand on its own without further explanation from staff.

* * * * *

We were not engaged to, and did not, perform an audit, the objective of which would be the expression of an opinion on the procedures referred to above. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the use of the City of San Diego, California and is not intended to be and should not be used by those who have not agreed to the procedures and taken responsibility for the sufficiency of the procedures for their purposes.

Margaret Hoffman Melara R.C.

CITY OF SAN DIEGO
Wastewater CIP Listing

Subproject		Description	Total CIP	CIP Funded by	
Project No.	No.			Bond Proceeds	Other Sources
Projects listed on Muni and Metro financing document:					
41-927.9		Pump Station 64 Odor Scrubber Rehabilitation	29,702	-	29,702
41-927.8		Standby Electrical Power system	296,799	144,006	152,793
41-928.1		Value Engineering For Pump Station 64, 65, Penasquitos & East Mission Gorge	80,004	12,246	66,758
41-928.2		Pump Station 65 Cathodic Protection	251,325	-	251,325
41-928.3		Pump Station 65 Auto Transfer Switch	322,821	155,091	167,730
41-928.4		Removal Second Stage Pump At Penasquitos	262,161	28,320	233,841
41-928.5		Screens Design Replacement PS 64, 65, Penasquitos	117,187	64,477	52,710
41-928.6		Pump Station 64 Large Valve	36,838	-	36,838
41-928.7		Pump Station 64 Flow Meter Replacement Project	78,418	-	78,418
41-928.8		East Mission Gorge Electrical Room Cooling	85,436	-	85,436
46-139.2		Home Avenue T. S. Contract III	3,632,304	14,445	3,617,859
46-162.1		East Linda Vista Trunk Sewer Phase 2	2,798,133	2,264,299	533,834
46-196.1		Maintenance Facilities Relocation: MOC 1 Office Improvements	2,867,194	258,060	2,609,134
46-196.3		Maintenance Facilities Relocation: MOC 6 WWC Warehouse	115,723	31,983	83,740
40-910.2		Chollas Valley Trunk Sewer*	7,616,658	5,687,546	1,929,112
40-920.4		East Mission Gorge Trunk Sewer Rehabilitation*	12,890,910	16,938	12,873,972
40-927.0		Centre City sewer Improvements*	2,327,745	-	2,327,745
40-928.0		South Pacific Highway Trunk Sewer*	3,672,612	1,859,587	1,813,025
40-930.0		Otay Mesa Trunk Sewer*	11,701,289	5,244,545	6,456,744
40-931.0		South Mission Valley Trunk Sewer*	1,426,304	-	1,426,304
40-932.0		Camden Redevelopment	71,127	-	71,127
41-929.0		Pump Station Upgrades*	2,173,745	-	2,173,745
45-934.0		Vactor Cleanings Disposal Site	392,511	-	392,511
45-936.0		Sewer System Canyon Access*	3,480,898	-	3,480,898
45-938.0		Beach Area Low Flow Storm Drain Diversion	2,251,176	-	2,251,176
45-946.0		South Bay Reclaimed Water Storage Tank*	1,423,127	283,682	1,139,445
46-117.0		Pump Station 65 - Expansion and Force Main*	22,936,927	992	22,935,935
46-120.0		Peasquitos Trunk Sewer Relief*	57,672,440	-	57,672,440
46-122.0		Carmel Valley Trunk Sewer Replacement - Sewer Pump Station 65*	8,295,608	-	8,295,608
46-136.0		Carmel Valley Trunk Sewer E/O I-5*	8,290,397	-	8,290,397
46-138.0		Highland Park Estates Trunk Sewer - Phase II*	1,305,399	-	1,305,399
46-139.0		Home Avenue Trunk Sewer - Contracts 1, 2 And 3*	2,144,069	-	2,144,069
46-142.0		Sewer Pump Station 24*	5,333,176	295,929	5,037,247
46-168.0		Telemetry Control Systems - SCADA*	8,528,858	1,597,572	6,931,286
46-188.0		Pump Station 64 - Improvement Project* Formerly: Pump Station 64 - HPO Injection	1,719,301	-	1,719,301
46-191.0		Brine Management Force Main and Pump Station	967,553	-	967,553
46-194.2		La Jolla/Pacific Beach Trunk Sewer - Chelsea Street Relocation*	8,260,042	5,836,890	2,423,152
46-195.0		Belt Street Trunk Sewer*	891,583	-	891,583
46-195.8		Miramar Road Trunk Sewer*	702,181	179,779	522,402
46-196.6		Balboa Trunk Sewer*	563,479	277,845	285,634
46-196.9		Montezuma Trunk Sewer*	566,418	-	566,418
46-197.0		Sorrento Valley Trunk Sewer Relocation*	10,972,214	614,095	10,358,119
46-197.6		USIU Trunk Sewer*	1,071,202	825,045	246,157
46-197.9		Lake Murray Trunk Sewer In Canyon*	798,732	628,123	170,609
46-198.0		UCSD Trunk Sewer*	2,377,221	34,470	2,342,751
46-199.0		West Linda Vista Trunk Sewer*	1,558,945	-	1,558,945
46-200.0		Sewer Pump Station 30A Relocation*	9,045,821	2,832,548	6,213,273
46-205.0		Harbor Drive Trunk Sewer Replacement*	622,510	311,302	311,208
46-208.0		San Pasqual Effluent Disposal	857	-	857
46-506.0		Pipeline Rehabilitation In The R.O.W. And Easements - Phase A*	17,299,996	14,175,688	3,124,308
46-601.6		Sewer Pump Station 45*	12,340,027	7,569,095	4,770,932
46-602.6		Sewer Pump Station 79*	1,265,056	-	1,265,056
41-926.1		Pump Station 2 Odor Control System	357,694	70,919	286,775
41-926.2		P.S. 1 Liquid Rheostats	314,358	161,558	152,800
41-926.3		P.S. 2 Liquid Rheostats	298,202	144,334	153,868
41-926.4		Pump Station 2 Parking Lot Construction	60,646	-	60,646
41-926.5		P. S. 1 Bleach Tank Replacement	32,722	-	32,722

41-926.6	P. S. 1 & 2 Sump Pumps/Well Transfer Pumps & Venturi Replacement	1,256,916	1,000,062	256,854
41-926.7	Design of Pump Station 1 Sluice Gates	707,836	614,072	93,764
41-926.9	P. S. 2 Heat Exchangers Modifications	432,545	24,545	408,000
41-929.1	P. S. 1 & 2 New Pumps Actuation System Design	196,794	35,748	161,046
41-929.2	P. S. 1 & 2 Power Reliability Investigation & Design	570,703	269,863	300,840
41-929.5	P. S. Liquid Nat Gas Pre-Design	65,285	-	65,285
41-929.6	P. S. Security Fence and Gate	171,583	25,766	145,817
41-929.7	P. S. 1 & 2 Design And Installation Level Indicators	65,627	14,223	51,404
41-929.8	P. S. 1 & 2 Screens Design & Installation	118,300	99,356	18,944
41-929.9	Screening Room Liner Improv	30,470	13,564	16,906
41-930.0	P. S. 1 & 2 Fiber Optic Installation	961,026	742,722	218,304
41-930.1	P. S. 2 Concrete Work	14,102	11,449	2,653
41-930.3	P. S. 2 Restroom Relocation	115,520	-	115,520
42-913.1	MBC Plant Imp. Centrifuges Digesters	4,587,513	500	4,587,013
42-913.3	MBC Plant Improvements Centrifuges Digesters	61,773	-	61,773
42-913.4	MBC Access Road	80,706	8,388	72,318
42-913.5	MBC Air Release Valve	10,149	-	10,149
42-913.6	MBC Access To Valves In	15,500	-	15,500
42-913.7	MBC Sump Pumps	70,050	2,921	67,129
42-913.8	MBC Digester Viewport REM	24,906	1,035	23,871
42-913.9	MBC Duct Cleaning Access	39,971	-	39,971
42-914.2	MBC Boiler Gas Meter Inst.	5,188	-	5,188
42-914.4	MBC Wash System For Miliitronic	569	-	569
42-914.5	MBC Design Modification	79,197	22,264	56,933
42-914.6	MBC Clarifier Access Station	10,649	4,545	6,104
42-914.7	Storm Drain	407,006	211,891	195,115
42-914.8	MBC Grit Teacups Access Platform	942,370	56,459	885,911
42-914.9	MBC Odor Control Modifications	215,082	-	215,082
42-915.1	MBC TC Wetwell Mixer	1,307	-	1,307
42-915.2	MBC Foul Air Duct U-Trap	273,046	182,067	90,979
42-915.3	MBC Heat Exchanger	200	-	200
42-915.4	MBC Misc. Concrete Work	32,171	-	32,171
42-915.7	MBC Reclaimed Water To Digester Tsfr Pumps	130,542	93,172	37,370
42-915.8	MBC RW Centrate Cathodic Protection	17,911	16,570	1,341
42-915.9	MBC Dewatering Transfer Pumps	733,417	1,752	731,665
40-911.1	South Bay Pump Station and Conveyance System- Phase I	1,003,649	6,456	997,193
40-911.3	South Bay Water Reclamation Sewer and Pump Station* Formerly South Bay Water Reclama	31,135,912	45,054	31,090,858
40-924.0	Metropolitan Operations Center MOC II Buildout*	8,140,451	594,246	7,546,205
41-924.0	Olaj River Pump Station*	12,266,990	896,808	11,370,182
41-925.0	Fourth Sludge Pump and Other Modifications*	4,938,289	724,055	4,214,234
42-910.1	North City Reclamation Plant*	205,494,493	178,461	205,316,032
42-910.6	South Bay Water Reclamation Plant* Formerly South Bay Water Reclamation and Secondary Pla	143,119,157	1,398,388	141,720,769
42-911.3	North City Raw Sludge and Water Pipelines*	19,683,829	10,865	19,672,964
42-911.4	Metro Biosolids Center*	254,088,040	71,616	254,016,424
42-915.0	NCWRP Permanent Demineralization Facility*	3,664,194	422,753	3,241,441
45-920.0	Wastewater Operations Management Network (COMNET)* Formerly Metro System Control	58,677,657	5,159,212	53,518,445
45-960.0	Point Loma - South Access Road Protection Project*	238,153	58,034	180,119
46-055.0	FIRP Pump Station* Formerly Fiesta Island Replacement Project	46,594,010	5,796	46,588,214
46-170.0	Point Loma - Digester Facility Upgrade and Expansion*	72,855,330	351,356	72,503,974
46-218.0	Point Loma - Digesters S1 & S2 Upgrades*	14,800,481	1,404,608	13,395,873
46-192.1	Point Loma Concrete Restorations Sed. Basins 9-12	1,020,254	134,676	885,578
46-192.4	Point Loma HVAC Upgrades Air Conditioning	373,417	104,399	269,018
46-192.5	Point Loma Odor Control Scrubber Fans	242,814	59,175	183,639
46-192.7	Point Loma 84-inch Penstock Improvement	184,549	42,246	142,303
46-192.8	Submersible Actuator Replacement	2,420	4	2,416
46-192.9	Gas utilization Facility I&C Startup	598,439	392,630	205,809
46-193.1	Bin Storage and Truck Wash	109,750	104,558	5,192
46-193.2	Hydro Road Storm Water Diversion	36,982	32,520	4,462
46-193.4	FIRP Phase B, C, & D Cathodic Protection	519,532	175,966	343,566
46-193.7	Point Loma NEOC Slide Gate	142,672	76,823	65,849
46-193.8	Point Loma NEOC Slide Gates & Hydro P.	25,420	22,353	3,067
46-193.9	Point Loma Lower Hydro Road Piping	59,298	49,362	9,936
46-600.6	Pump Station 1 Electrical Upgrade	155,186	143	155,043
40-922.0	MOC Central Repair Facility*	6,099,789	192,365	5,907,424
45-911.0	South Metro Rehabilitation*	10,704,430	482	10,703,948

45-937.0	Point Loma Site Improvements*	403,321	1,468	401,853
45-941.0	South Metro Downtown Tunnel Rehabilitation*	6,777,568	1,864,977	4,912,591
45-942.0	Metropolitan Operations Center Expansion Phase II*	4,406,246	16,719	4,389,527
45-943.0	Point Loma Grit Processing Improvements*	2,601,090	245,154	2,355,936
46-104.0	North Metro Interceptor*	64,379,512	533,889	63,845,623
46-110.0	Point Loma - Scum Removal System*	18,010,752	9,000	18,001,752
46-175.0	Point Loma - Headworks, Odor Control and Grit Processing Facilities*	19,680,607	28,526	19,652,081
46-177.0	Point Loma - Sedimentation Basins 11 and 12+ (This project has been completed)	22,936,927		22,936,927
46-179.0	Point Loma - Power Generation and Distribution Upgrade*	25,217,175	237,307	24,979,868
46-182.0	Point Loma Chemical Feed Systems Upgrade*	6,061,874	45,671	6,016,203

Projects listed on CIP Budget:

41-927.3	Annual Allocation - Pump Stations 64, 65, Pensquitos and Mission Gorge	172,095	118,667	53,428
41-927.6	Annual Allocation - Pump Stations 64, 65, Pensquitos and Mission Gorge	401,261	57,078	344,183
46-194.3	Annual Allocation - Trunk Sewer Rehabilitations	788,529	24,066	764,463
46-194.7	Annual Allocation - Trunk Sewer Rehabilitations	1,401,645	74,689	1,326,956
46-195.5	Belt Street Trunk Sewer	439,384	96,641	342,743
46-195.7	Belt Street Trunk Sewer	2,546,675	1,509,093	1,037,582
46-195.9	Belt Street Trunk Sewer	327,678	24,212	303,466
46-601.0	Pump Station #45	7,660,249	726,332	6,933,917
46-601.3	Pump Station #45	5,118,582	2,195,455	2,923,127
46-601.8	Pump Station #45	2,507,211	905,789	1,601,422
46-601.9	Pump Station #45	4,168,383	2,220,561	1,947,822
41-928.9	Pump Stations #1 and #2 Large Valve Replacement	65,250	62,511	2,739
46-602.0	Sewer Pump Station 79	1,110,654	286,739	823,915
46-602.1	Sewer Pump Station 79	2,282,261	1,535,666	746,595
46-602.2	Sewer Pump Station 79	1,835,271	153,806	1,681,465
46-602.3	Sewer Pump Station 79	1,317,326	769,093	548,233
46-602.4	Sewer Pump Station 79	914,018	513,742	400,276
46-602.5	Sewer Pump Station 79	1,177,448	79,524	1,097,924
46-602.7	Sewer Pump Station 79	3,895,417	2,416,202	1,479,215
46-602.8	Sewer Pump Station 79	1,074,427	750,376	324,051
46-602.9	Sewer Pump Station 79	907,952	528,248	379,704
46-197.5	Sortento Valley Trunk Sewer Relocation	342,225	40,091	302,134
40-911.4	South Bay Pump Station and Conveyance System - Phase I	16,383	1,405	14,978
40-928.1	South Pacific Highway Trunk Sewer	2,642,157	2,299,685	342,472

Projects listed on CIP Budget (Project ID/Subproject ID):

41-926.0	41-930.2	PS #1 Lighting Upgrade	113,773	23,377	90,396
41-927.0	41-935.1	PS 64 Bleach Tank Replacement	85,841	41,455	44,386
42-911.3	42-911.5	North City Raw SL & Water Pipelines Reveg Sublet	4,935	4,935	-
42-911.3	42-911.6	Northern Sludge Processing Facility PH II	44,420	27,461	16,959
44-001.0	44-105.0	Sewer Group 90	2,129,321	8,676	2,120,645
44-001.0	44-107.9	Sewer Group 653	1,671,366	1,312,530	358,836
44-001.0	44-108.2	Sewer Repl Group 649-Kensington	263,673	19,355	244,318
44-001.0	44-108.4	Sewer Repl Group 651 Kensington	3,300,596	2,465,145	835,451
44-001.0	44-108.5	Sewer Repl Group 652 Kensington	3,634,544	404,824	3,229,720
44-001.0	44-109.6	Sewer Repl Group 663-Mission Hills	3,384,128	368,414	3,015,714
44-001.0	44-109.7	Sewer Repl Group 664-Mission Hills	300,441	18,608	281,833
44-001.0	44-109.8	Sewer Repl Group 665	458,620	8,071	450,549
44-001.0	44-210.1	Sewer Group 667 Ocean Beach - So Mstr Repl	2,040,045	712,312	1,327,733
44-001.0	44-210.2	Sewer Group 668 Ocean Beach - So Mstr Repl	215,365	15,847	199,518
44-001.0	44-210.5	Sewer Group 670 Ocean Beach - So Mstr Repl	1,661,286	636,328	1,024,958
44-001.0	44-210.6	Sewer Group 633 Main Repl	2,797,799	876,749	1,921,050
44-001.0	44-211.2	Sewer Group 672 Main Repl	1,568,182	859,170	709,012
44-001.0	44-211.3	Sewer Group 673 Main Repl	2,067,260	207,824	1,859,436
44-001.0	44-212.9	Sewer Group Job 682	719,508	83,900	635,608
44-001.0	44-213.0	Sewer Group Job 677	1,405,158	282,216	1,122,942
44-001.0	44-213.2	Sewer Group Job 676	341,805	52,198	289,607
44-001.0	44-213.5	Sewer Group Job 681	3,467,406	148,622	3,318,784
44-001.0	44-213.6	Sewer Group Job 680	4,492,422	2,963,417	1,529,005
44-001.0	44-213.9	Cather Ave/Florey St/Florey Ct Rerouting	1,176,421	19,073	1,157,348
44-001.0	44-214.2	Sewer Group Job 627B	932,505	509,310	423,195
44-001.0	44-214.9	City Heights: Grp 683	3,478,780	1,749,254	1,729,526

44-001.0	44-215.0	City Heights: Grp 684	696,279	10,904	685,375
44-001.0	44-215.1	City Heights: Grp 685	540,997	7,228	533,769
44-001.0	44-215.2	City Heights: Grp 686	2,820,534	344,706	2,475,828
44-001.0	44-215.4	University Heights-GJ 687	792,915	7,295	785,620
44-001.0	44-215.5	University Heights-GJ 690	3,225,521	1,167,352	2,058,169
44-001.0	44-215.6	University Heights-GJ 688	1,654,395	1,303,600	350,795
44-001.0	44-215.7	University Heights-GJ 689	606,007	31,091	574,916
44-001.0	44-215.8	Del Rey Street 3.0" Sewer Main	1,851,022	219,226	1,631,796
44-001.0	44-217.1	Sewer Group 634 B	2,771,926	1,787,553	984,373
44-001.0	44-217.2	Sewer Group 683 A	452,329	20,564	431,765
44-001.0	44-217.3	Sewer Group 623 B	3,966,979	3,101,543	865,436
44-001.0	44-217.8	Sewer Group Job 726	296,740	66,634	230,106
44-001.0	44-217.9	Sewer Group Job 727	252,186	78,478	173,708
44-001.0	44-218.0	Sewer Group Job 728	296,509	69,587	226,922
44-001.0	44-218.1	Sewer Group Job 729	286,422	38,990	247,432
44-001.0	44-218.3	Sewer Group 731	207,636	15,858	191,778
44-001.0	44-218.6	La Jolla Shores Dr/Ardath Road	2,268,682	1,027,134	1,241,548
44-001.0	44-218.7	Group Job 545	1,697,805	27,792	1,670,013
44-001.0	44-218.9	Sewer & Water Group Job 544	159,216	5,005	154,211
44-001.0	44-219.0	Sewer Group 735	285,605	78,686	206,919
44-001.0	44-219.1	Sewer Group 737	2,070,830	301,531	1,769,299
44-001.0	44-219.2	Sewer Group 697 A	119,340	3,446	115,894
44-001.0	44-219.4	Group Job 740	219,013	19,459	199,554
44-001.0	44-219.6	Group Job 741	333,333	42,672	290,661
44-001.0	44-219.8	Sewer Group 742	922,220	218,720	703,500
44-001.0	44-219.9	Sewer & Water Group 743	521,988	200,544	321,444
44-001.0	44-220.0	Sewer Group 744	4,203,261	1,311,062	2,892,199
44-001.0	44-220.1	Sewer Group 745	678,228	404,232	273,996
44-001.0	44-220.2	Sewer Group 746	2,471,235	189,288	2,281,947
44-001.0	44-220.3	Sewer & Water GJ 747	642,485	184,061	458,424
44-001.0	44-220.4	Sewer Group 748	601,636	314,826	286,810
44-001.0	44-220.5	Sewer Group 749	1,379,484	224,186	1,155,298
44-001.0	44-220.6	Sewer Group Job 687A	157,868	7,088	150,780
44-001.0	44-220.7	Sewer Group Job 738	192,389	15,851	176,538
44-001.0	44-220.9	Sewer Repl GJ 750	450,131	132,647	317,484
44-001.0	44-221.0	Sewer Repl GJ 751	388,499	157,475	231,024
44-001.0	44-221.1	Water & Sewer Repl 752	417,443	36,144	381,299
44-001.0	44-221.2	Water & Sewer GJ 753	264,491	113,411	151,080
44-001.0	44-221.3	Water & Sewer GJ 754	315,570	131,064	184,506
44-001.0	44-221.4	Sewer & Water GJ 756	263,985	3,793	260,192
44-001.0	44-221.5	Sewer Repl GJ 757	209,576	11,683	197,893
44-001.0	44-221.6	Sewer & Water GJ 758	173,541	29,535	144,006
44-001.0	44-221.9	Sewer & Water Group Job 760	196,008	10,102	185,906
44-001.0	44-222.1	Sewer & Water Group Job 764	74,265	37,774	36,491
44-001.0	44-222.2	Sewer & Water Group Job 765	175,662	66,755	108,907
44-001.0	44-222.3	Sewer Group Job 767	262,334	111,753	150,581
44-001.0	44-222.4	Sewer Group Job 768	463,730	274,800	188,930
44-001.0	44-222.5	Sewer & Water Group Job 761	260,491	126,395	134,096
44-001.0	44-222.6	Sewer Group Job 762	441,828	206,923	234,905
44-001.0	44-222.7	Sewer & Water Group Job 763	429,440	115,344	314,096
44-001.0	44-222.8	Sewer & Water Group 766	502,676	261,070	241,606
44-001.0	44-222.9	Sewer Group Job 900	49,523	33,229	16,294
44-001.0	44-223.0	Sewer Group Job 901	330,261	274,078	56,183
44-001.0	44-223.1	Sewer Group Job 902	167,611	153,577	14,034
44-001.0	44-223.2	Sewer Group Job 903	354,343	337,898	16,445
44-001.0	44-223.3	Sewer Group Job 904	321,067	305,754	15,313
44-001.0	44-223.5	Sewer Group 742 A	216,350	8,421	207,929
44-001.0	44-223.6	Sewer Group 747 A	1,755,050	1,461,467	293,583
44-001.0	44-224.0	Sewer & Water GJ764A	223,687	90,654	133,033
44-001.0	44-224.1	Sewer & Water GJ789	146,436	41,752	104,684
44-001.0	44-224.7	Sewer & Water Group Job 774	367,265	82,891	284,374
44-001.0	44-224.8	Sewer & Water Group Job 775	160,349	53,411	106,938
44-001.0	44-224.9	Sewer Group Job 776	103,077	25,982	77,095
44-001.0	44-225.0	Sewer & Water Group Job 778	143,033	32,571	110,462
44-001.0	44-305.8	Sewer Group 516	455,038	221,216	233,822

44-001.0	44-305.9	Sewer Group 616	3,290,573	2,460,254	830,319
44-001.0	44-306.2	Sewer Group 619	2,486,641	444,317	2,042,324
44-001.0	44-309.6	Sewer Group 640	4,941,885	3,403,274	1,538,611
44-001.0	44-309.7	Sewer Group Job 632 Sewer Main Replacement	5,051,638	2,240,093	2,811,545
44-001.0	44-309.8	Sewer Main Group 626A Sewer Main Replacement	1,044,240	536,441	507,799
44-001.0	44-310.1	Sewer Group 691	531,220	61,148	470,072
44-001.0	44-310.2	Sewer Group 692 Sewer Replacement Main	2,395,769	1,886,817	508,952
44-001.0	44-310.3	Sewer Group 693 Sewer Main Replacement	436,573	8,754	427,819
44-001.0	44-310.5	Sewer Group 695 Sewer Main Replacement	131,896	5,824	126,072
44-001.0	44-310.6	Sewer Group 725 Sewer Main Replacement	459,338	4,151	455,187
44-001.0	44-310.7	Sewer Group 697 Sewer Main Replacement	2,231,825	663,850	1,567,975
44-001.0	44-310.8	Sewer Group 698 Sewer Main Replacement	607,406	8,325	599,081
44-001.0	44-310.9	Sewer Group 699 Sewer Main Replacement	3,777,590	824,466	2,953,124
44-001.0	44-311.0	Sewer Group 700	1,546,827	609,693	937,134
44-001.0	44-311.2	Sewer Group 702 Sewer Main Replacement	858,160	350,427	507,733
44-001.0	44-311.4	Sewer Group 704 Sewer Main Replacement	1,689,056	1,059,680	629,376
44-001.0	44-311.6	Sewer Group 706 Sewer Main Replacement	1,445,964	715,086	730,878
44-001.0	44-311.7	Sewer Group 707 Sewer Main Replacement	2,827,303	2,332,836	494,467
44-001.0	44-311.8	Sewer Group 708 Sewer Main Replacement	2,153,825	609	2,153,216
44-001.0	44-311.9	Sewer Group 539 Sewer Main Replacement	3,899,122	2,702,189	1,196,933
44-001.0	44-312.2	Sewer Group Job 714	378,640	1,802	376,838
44-001.0	44-312.3	Sewer Group Job 715	423,699	15,763	407,936
44-001.0	44-312.4	Sewer Group Job 716	542,510	20,700	521,810
44-001.0	44-313.0	Sewer Group 718	2,176,157	659,106	1,517,051
44-001.0	44-313.1	Sewer Group Job 719	3,312,481	2,392,208	920,273
44-001.0	44-314.0	Sewer Group 722	1,682,468	1,222,222	460,246
44-001.0	44-314.1	Sewer Group 723	270,411	77,290	193,121
46-180.0	46-180.1	Point Loma Admin Building Interior Improvment	621,112	17,106	604,006
46-180.0	46-181.2	Force Main I Inspection and Repair PH 3	1,827,320	1,001,764	825,556
46-194.0	46-198.1	Pacific Bch - La Jolla TSH3	274,254	20,525	253,729
46-106.0	46-600.1	Sewer Pump Station #61	7,660,249	92,627	7,567,622
46-106.0	46-603.0	Sewer Pump Station #49	2,116,210	310,645	1,805,565
46-106.0	46-603.1	Sewer Pump Station #39	1,251,185	278,416	972,769
46-106.0	46-603.2	Sewer Pump Station #59	1,212,463	713,264	499,199
46-106.0	46-603.4	SP STA# 52,53, 55, 56, 58	1,133,865	15,885	1,117,980
46-106.0	46-603.6	Sewer Pump Station #42	2,834,577	1,711,908	1,122,669
46-106.0	46-603.7	Sewer Pump Station #50	2,022,023	974,618	1,047,405
46-106.0	46-603.8	Sewer Pump Station 3-23	1,475,039	813,879	661,160
46-106.0	46-604.0	Pump Station 63 Replacement	381,518	104,325	277,193
46-106.0	46-604.1	Sewer Pump Station 25, 31, 32, 33, 40	1,898,644	1,320,685	577,959
46-106.0	46-604.2	Cottontail Canyon Swr PS	71,405	23,764	47,641
Projects not listed in CIP Budget:					
00-100.2	Hawkins, Delafield & Wood LLP		-	90,358	(90,358)
00-100.3	Orrick, Herrington & Sutcliffe		-	194,520	(194,520)
00-100.4	CDIAC Reporting Fees		-	3,000	(3,000)
00-100.5	Wells Fargo Trustee Fees		-	2,800	(2,800)
00-100.6	White & Case		-	25,000	(25,000)
00-100.7	Webster & Anderson		-	18,651	(18,651)
Total			\$ 1,536,859,306	152,219,032	1,384,640,274



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Office of the Mayor
City of San Diego

Independent Accountant's Report on Agreed-Upon Procedures
Applied to Proposed Wastewater Rate Increases

We have applied the procedures enumerated below to the City of San Diego's proposed wastewater rate increases. These procedures, which were agreed to by the City of San Diego were performed solely to assist the City in evaluating the proposed wastewater rate increases.

This engagement to apply agreed-upon procedures was performed in accordance with standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of the specified users of the report. Consequently, we make no representations regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

For purposes of comparisons referenced in this report, amounts are considered to be consistent if the difference between the compared amounts is less than \$1 million and also less than 15%.

BACKGROUND

The Wastewater rate model was developed by outside consultants. The rate model contains projections of future expected revenues, operating costs, and capital costs. The model requires the rate increases to be sufficient to cover net operating costs and 20% of annual capital costs while not violating certain constraints. The model's constraints include maintaining \$10 million in unrestricted, undesignated equity and maintaining a debt coverage ratio of at least 125% through fiscal year ending June 30, 2017. The model projects the following rate increases beginning:

May 1, 2007	8.75%
May 1, 2008	8.75%
May 1, 2009	7%
May 1, 2010	7%

PROCEDURES PERFORMED

The procedures performed and the results of those procedures were as follows:

1. We agreed the beginning unrestricted, undesignated equity balance at June 30, 2006 to unaudited accounting system reports.

Results: The unaudited accounting system reports supported the amounts included in the rate model.

2. The rate model projects revenues based on historical trends and projections of future demand. The rate model includes the following revenue projections (in thousands):

	Fiscal Year Ending June 30,				
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Service Charge Revenues	\$ 238,538	261,769	293,274	316,409	337,207
Sewage Treatment Plant Services	70,389	73,916	77,518	81,142	84,705
Interest Earnings	3,963	4,867	5,358	6,134	6,482
Capacity Charge	14,984	15,139	15,294	15,450	15,607
Other Revenue	<u>17,507</u>	<u>10,794</u>	<u>11,093</u>	<u>11,404</u>	<u>11,728</u>
	<u>\$ 345,381</u>	<u>366,485</u>	<u>402,537</u>	<u>430,539</u>	<u>455,729</u>

- We agreed the 2003 to 2006 revenues to unaudited accounting system reports. These revenues are used in the model to calculate historical trends.

Results: For the years ended June 30, 2003 through 2006, the revenues are consistent with unaudited accounting system reports.

- We agreed the 2007 revenue amounts to the 2007 Annual Budget.

Results: The 2007 Annual Budget is consistent with the projected revenues used in the rate model calculation.

- For *Service Charge Revenues*, we analytically tested the projected revenues for the years ending June 30, 2007 through 2011 by calculating revenues as a percentage of the sewered population as projected by San Diego Association of Governments. We also reviewed Service Charge Revenues by comparing future increases to historical increases.

Results: Projected revenues as a percentage of the population are consistent with historical years. Additionally, projected revenues, excluding inflation and projected rate increases, are consistent with historical revenues.

- For *Interest Income*, we calculated the rate of return using unaudited accounting system reports.

Results: The projected rate of return is consistent with current market interest rates.

- For *Sewage Treatment Plant Services*, *Capacity Charges*, and *Other Revenues* we compared each projected year to the prior year, beginning with the fiscal year ended June 30, 2005.

Results: Projected revenues did not significantly vary from prior year data except for Other Revenues during 2007 to 2008. This is a result of a one-time refund to the Wastewater Department from the Motive Equipment Fund. The refund is attributed to the Wastewater Department's accumulation of funds in the Motive Equipment Fund which exceeds projected fleet vehicle requirements in operations over a 30-year period. The action is currently in the process of being approved by City Council.

3. The rate model projects other sources of funding based on long-term budgeting expectations. The rate model includes the following projections of other sources (in thousands):

	For the years ended June 30,				
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Bond Proceeds	\$ 199,345	80,270	95,590	148,380	147,534
Other Sources	<u>14,435</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total	<u>\$ 213,780</u>	<u>80,270</u>	<u>95,590</u>	<u>148,380</u>	<u>147,534</u>

- *Bond Proceeds* are issued to fund 80% of expected capital project expenditures. Wastewater revenues are used to fund the remaining 20% of capital projects. We recalculated 80% of the capital project expenditures to determine if the amount of bond proceeds is accurate.

Results: Bond proceeds reported in 2007 are equal to 60% of eligible capital project expenditures, a reimbursement of 2007 eligible capital project expenditures, and \$152 million of proceeds to be used to refund outstanding debt. Bond proceeds reported in 2008 through 2011 are consistent with 80% of eligible capital project expenditures.

- We inquired about significant changes in *Other Sources*.

Results: The \$14 million of Other Sources in 2007 represents known grant funding in 2007 that is unknown for future years.

4. The rate model projects operating expenses based on historical trends and projections of future demand. The rate model includes the following expense projections:

	Fiscal Year Ending June 30,				
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Debt Service	\$ 95,947	99,248	105,747	113,477	125,492
Operating & Maintenance	<u>245,158</u>	<u>247,709</u>	<u>265,865</u>	<u>281,359</u>	<u>292,308</u>
	<u>\$ 341,105</u>	<u>346,957</u>	<u>371,612</u>	<u>394,836</u>	<u>417,800</u>

- We agreed the 2003 to 2006 expenditures to unaudited accounting system reports. These expenditures are used in the model to calculate historical trends.

Results: For the years ended June 30, 2003 through 2006, expenditures per the unaudited accounting system reports are consistent with expenditures in the rate model.

- We agreed the 2007 expenditure amounts to the 2007 Annual Budget.

Results: The 2007 expenditures per the model are consistent with the approved expenses in the 2007 Annual Budget.

- For *Operating & Maintenance Expenditures* we compared each projected year to the prior year starting with the fiscal year ended June 30, 2005. Operating and maintenance expenses did not increase by more than 15% in any year and are consistent with historical amounts. We obtained a detailed listing of what makes up the operating and maintenance expense amounts. For significant fluctuations between fiscal years, we obtained an explanation from management.

Results: The major changes in Operating & Maintenance Expenditures are as follows:

- Increase in Pension Contribution – We agreed the increase to projections provided by the Office of the Mayor.
- Increase in Retirement Health Benefits – We agreed the increase to projections provided by the Office of the Mayor.
- Increase in General Government Services – We agreed the increase to detailed reports of the General Governmental Service Allocation.
- Decrease in use of Service Level Agreements – We agreed the decrease to the Mayor's response to the Grand Jury findings.

- For *Operating & Maintenance Expenditures*, we calculated expenditures as a percentage of flow as reported and projected by the San Diego Association of Governments for both historical and future years.

The results are as follows:

	For the years ended June 30,				
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Ratio of Flow to Operating & Maintenance Expenditures	0.08%	0.08%	0.07%	0.07%	0.07%

Historical Average for 2003 - 2006 = 0.08%

- For *Debt Service Expenditures*, we agreed principal and interest payments to bond maturity schedules on outstanding debt. We also agreed debt service payments to the City's bond model that projects debt service on bonds that have not yet been issued.

Results: No exceptions were noted.

5. The rate model projects capital expenditures based on specific project start dates and cost estimates. The capital project expenditures include a 3.5% contingency cost and an inflation factor of 4%. We compared the capital project expenditures in the rate model to the City's Capital Improvement Budget.

Results: The capital improvement budget included in the 2007-2011 annual budget report totals \$979 million. The capital improvement expenses from 2007-2011 in the rate model total \$643 million. The variance of \$336 million is mainly attributed to management's decision to schedule certain projects in later years than previously budgeted for in the capital projects budget. The modified projects are as follows:

Project Number	Project Name
44-001.0	Annual Allocation - Sewer Main Replacements
46-194.0	Annual Allocation - Trunk Sewer Rehabilitations
46-206.0	Annual Allocation - Accelerated Projects
40-933.0	Annual Allocation - MWWD Trunk Sewers
45-940.0	Wet Weather Storage Facility
42-933.0	NCWRP - Ultrafiltration and EDR Upgrade
41-933.0	Pump Station 2 Screens
42-930.0	SBWRP Demineralization Phase 1 and 2
46-502.0	Pooled Contingency
46-505.0	Annual Allocation - Unscheduled Projects

* * * * *

We were not engaged to, and did not, perform an audit, the objective of which would be the expression of an opinion on the subject matter. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the use of the City of San Diego, California and is not intended to be and should not be used by those who have not agreed to the procedures and taken responsibility for the sufficiency of the procedures for their purposes.

Mayer Hoffman Melana P.C.

Irvine, California
November 17, 2006



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Office of the Mayor
City of San Diego

Independent Accountant's Report on Agreed-Upon Procedures
Applied to Wastewater Fund Transfers to Other Funds

We have applied the procedures enumerated below to the City of San Diego's transfers out and interfund charges (including Service Level Agreement charges) paid by the Wastewater Fund for the fiscal year ended June 30, 2003. These procedures, which were agreed to by the City of San Diego were performed solely to assist the City in determining whether or not interfund charges and transfers applied to the Wastewater Fund were in accordance with generally accepted accounting principles.

This engagement to apply agreed-upon procedures was performed in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of the specified users of the report. Consequently, we make no representations regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The procedures performed and the results of those procedures were as follows:

1. We obtained a summary of expenses by account name for the Wastewater Fund. We identified accounts that were likely to include charges from other funds and transfers to other funds.

Results: Interfund activities were recorded as either transfers or expenses of the Wastewater Fund. The expense charges can be further broken into Service Level Agreement (SLA) charges and other charges initiated by journal entries. The following summarizes the universe of interfund activities evaluated for the year ended June 30, 2003:

Service Level Agreements – Operating	\$13,275,065
Service Level Agreements – Capital	21,575,156
Transfers to Other Funds	2,189,849
General Government Service Allocation	<u>3,395,658</u>
Total	<u>\$40,435,728</u>

2. We obtained a list of the transfers out of the Wastewater Fund for the year ended June 30, 2003 totaling \$2,189,849. We tested 100% of the transfers to determine whether the transfer resulted in a benefit to the Wastewater Fund and to determine whether the allocation methodology was reasonable in those instances where costs were allocated among various funds of the City.

Results: The transfers tested benefited the Wastewater Fund and were allocated equitably between the funds of the City for \$1,761,157 or 80% of the transfers, with the exception of the following:

- a. \$254,302 Transfer to General Fund: This transfer allocated the cost of the Equal Opportunity Contracting Program. The program pays for compliance, research, and other costs associated with small capital improvement projects allowing an equal opportunity for small construction companies to participate. The Wastewater Fund paid 49% of the project costs for the year ended June 30, 2003. However, City personnel estimate that approximately 5% of these projects were Wastewater Fund projects (based on number of projects since inception of program). The 49% allocation was determined many years ago and has not been adjusted to reflect a more equitable allocation.

Recommendation: We recommend that the City allocate costs of this program based on the number of participating project from each department. The allocation base should be reevaluated and adjusted annually.

- b. \$87,353 Transfer to General Fund: This transfer allocated 21.36% of the cost of lobbying contracts. The lobbying costs were allocated to the following City funds that are regularly engaged in lobbying activities: General Fund, Airport Fund, Environmental Services, Wastewater Fund, Development Services, and the Water Fund. The allocation was based on each participating fund's expenditure budget as a percentage of the whole. The allocation does not appear to align the benefits received by each fund with the cost of the program.

Recommendation: The allocation should be based on specific lobbying activities based on information received from the lobbyist.

- c. \$73,407 transfer to the Special Training Fund: This was a budgeted transfer for reimbursement of the Career Development & Mentoring Program. Per discussions with City personnel, the program was specifically for "field employees" and is only charged to four enterprise funds (Wastewater, Water, Development Services, and Environmental Services). The four enterprise funds account for 46% of the transfers in to fund the program. These funds appear to have been overcharged for the benefits to the funds with other field employees. Additionally, the share of costs between the four funds does not appear to be supported by the number of field employees in each fund.

Recommendation: We recommend that the City evaluate the current allocation methodology and modify it to better align with the benefits to the Wastewater Fund.

- d. \$13,630 Transfer to Special Training Fund: This transfer allocated certain costs of the Equal Employment Opportunity Program. These costs were only funded by six of the City's enterprise funds. The Wastewater Fund paid 37% of the

costs. The allocation does not appear to be reflective of the benefits provided to the Wastewater Fund since employees of non-enterprise funds were not charged for the cost of the program. The program is funded through user charges based on employee attendance at seminars. However, this additional charge (totaling \$36,403 for all six enterprise funds), was intended to partially pay for the salary of the Human Resources' Director's assistant who provided training services.

Recommendation: Since the program is already funded through user charges based on employee attendance, additional transfers should not be made to cover other unfunded portions of the program. Instead, the City should change the user rates to cover the costs of the program

3. We obtained a list of all SLA agreements for the year ended June 30, 2003 and selected the three largest agreements for testing (amounting to over 55% of total expenditures for all SLA's). We obtained a copy of the three SLA agreements, met with personnel responsible for development of the SLA, and determined whether the benefit received by the Wastewater Department was sufficient to justify the costs of the SLA's.

Cities utilize fund accounting to track specific functions or activities of the government. It is common for an employee's payroll costs to be charged to multiple funds based on the benefits received by each fund. There are several ways to allocate employee costs to various funds of the City. An employee's costs could be recorded in one fund of the City and a journal entry could be generated to charge another fund a portion of that employee's payroll costs based on an estimate of time spent benefiting the other fund. A more accurate way to allocate employee costs is to have employees keep track of their time on a daily basis and directly charge the benefiting fund based on the employee's timesheet entries.

Results: The City of San Diego utilizes the timesheet method for allocating labor between funds which conforms to the "best practices" method of documentation of allocation of personnel costs. The three SLA agreements selected and the results of our testwork are as follows:

General Services / Facilities Maintenance

Budgeted expenditures -	\$1,398,121
Actual expenditures -	2,106,783

The SLA provides fourteen full-time positions to provide preventative maintenance, general repair and maintenance, and improvements as required and necessary for the efficient operation of City facilities and related equipment (elevators, heating, air conditioning systems, boilers, etc.). All of the charges to the Wastewater Fund were based on employee timesheet charges. Employees working on specified projects covered by the SLA tracked actual time spent on the project on their timesheets. The payroll

system allocates a percentage of the employees' payroll costs based on the employee timesheets.

We selected two employees who charged their time through this SLA. We selected a pay period and tested the two employee's time cards. We traced the labor charge under the SLA to the employee time cards.

Recommendation: City documentation policies conform to accepted methodologies. In response to community concerns, we recommend that the Facilities Maintenance Division augment this standard level of documentation with monthly reports describing in detail the benefits provided to the Metropolitan Wastewater Department.

Engineering & Capital Projects / Water & Sewer Design

Budgeted expenditures -	\$19,331,769
Actual expenditures -	15,451,134

The purpose of the SLA is to establish collaborative supportive roles of each division for different phases of capital improvement projects including sewer main replacements, trunk sewers, sewer pump stations, and unscheduled accelerated projects. The Water & Sewer Design division provided project management, engineering and design, construction management, and contract support services to the Metropolitan Wastewater Department. The SLA budgeted costs are divided into 72% timesheet driven labor costs and 28% non-labor charges (totaling \$5,413,858). The Water & Sewer Design division was 100% reimbursable by the Water and Wastewater SLAs. All costs of the division were allocated to Water and Wastewater based on the percentage of capital expenditures related to the managed projects. For the year ended June 30, 2003, the Wastewater Fund paid 67% of the costs of this division.

The SLA agreement covers the following non-labor costs: training, transportation, workstations, computers, printers, office space, supplies, telephone, mainframe usage, network access, hardware/software purchases, computer maintenance, and San Diego Data Processing labor charges. When reviewing the types of charges covered by the SLA, we noted that additional expenses were charged that were not specifically covered in the SLA such as the general government indirect cost allocation of approximately \$518,000 and legal fees of almost \$390,000. While we found no evidence that these costs were inappropriately charged to the Wastewater Fund, these particular cost categories were not specifically set forth in the service level agreement as authorized costs to be charged to the Wastewater Fund.

We selected twenty transactions accounting for over \$800,000 of the total non-labor charges for additional testing. Each of these twenty transactions were allowable non-labor costs under the SLA agreement.

We selected four employees who charged their time through this SLA. We selected a pay period and tested the four employee's time cards. We traced the labor charge under the SLA to the employee time cards.

We interviewed two employees who charged their time to the SLA. We inquired with each employee if they were encouraged to overcharge time on their time cards for time spent on Wastewater projects. In each interview, the employee stated that only actual hours spent on each Wastewater project were charged, and that they were unaware of any other employee or department that was encouraged to overcharge Wastewater projects.

Recommendation: City documentation policies conform to accepted methodologies. In response to community concerns, we recommend that the Water & Sewer Design division augment this standard level of documentation with monthly reports describing in detail the benefits provided to the Wastewater Department. The SLA agreement should also be modified to include all allowable non-labor costs that are intended to be charged through the SLA.

Development Services Department

Budgeted expenditures -	\$2,511,895
Actual expenditures -	1,558,123

The SLA provides for the coordination of environmental requirements resulting from Wastewater emergencies and urgent repairs, environmental reviews to support Wastewater projects, and ensuring that any new development is meeting the Wastewater design guide minimums. All of the charges to the Wastewater Fund were generated by direct personnel charges.

We selected three employees who charged their time through this SLA. We selected a pay period and tested the three employee's time cards. We traced the labor charge under the SLA to the employee time cards.

We interviewed two employees who charged their time to the SLA. We inquired with each employee if they were encouraged to overcharge time on their time cards for time spent on Wastewater projects. In each interview, the employee stated that only actual hours spent on each Wastewater project were charged, and that they were unaware of any other employee or department that was encouraged to overcharge Wastewater projects.

Recommendation: City documentation policies conform to accepted methodologies. In response to community concerns, we recommend that the Development Services Department augment this standard level of documentation with monthly reports describing in detail the benefits provided to the Wastewater Department.

City Attorney's Office

While the service level agreement between the City Attorney's Office and the Wastewater Fund was not one of the top three service level agreements impacting the Wastewater Fund in 2002-03 (in terms of dollars charged) and therefore was not selected for testing for the purposes of testing charges to the Wastewater Fund, the reader is referred to issues of inaccurate timekeeping practiced by the City Attorney's Office during fiscal 2002-03 that are described further in our report concerning interfund charges to the Water Fund.

4. For other charges to the Wastewater Fund that were neither a Transfer nor a SLA, we selected a sample of transactions and obtained the journal entry for testing. We determined whether the transaction resulted in a benefit to the Wastewater Fund and determined whether the allocation methodology was reasonable in those instances where costs are allocated amongst various funds of the City.

Results: The City allocates indirect costs of the General Fund to other City Funds through the General Government Services Charge. For the year ended June 30, 2003, the charge to the Wastewater Fund was \$3,395,658. The charge is broken into General Fund departments. We selected the largest departmental charges to the Wastewater Fund, Auditor-Comptroller's Office and City Treasurer's Office, and evaluated the allocation base and methodology as noted below.

Auditor-Comptroller's Office

The Auditor-Comptroller's indirect costs charged to the Wastewater Fund were \$656,718 for the year ended June 30, 2003. We obtained the *Departmental Allocable Costs* report from the accounting system that details the Auditor-Comptroller's costs by department and expense type. This report includes all costs of the Auditor-Comptroller's office. To determine the allocation base, the total of the report is reduced by the SLA charges. The remaining costs not funded through SLA's were totaled and allocated to other City Funds based on each Fund's personnel costs as a percentage of budgeted expenditures, excluding capital expenditures. This methodology is an acceptable practice under generally accepted accounting principles. We recalculated the SLA charges noted on the *Departmental Allocable Costs* report for the Wastewater Fund and agreed them to the SLA charges per the accounting system, without material exception, to test that the Auditor-Comptroller's Office costs were not double charged both through the SLA and the general government services allocation.

City Treasurer's Office

The City Treasurer's indirect costs charged to the Wastewater Fund were \$521,220 for the year ended June 30, 2003. We obtained the *Departmental Allocable Costs* report from the accounting system that details the City Treasurer's costs by department and expense type. This report includes all costs of the City Treasurer's Office. To determine the allocation base, the total of the report is reduced by the SLA charges. The remaining

costs not funded through SLA's were totaled and allocated to other City Funds based on each Fund's cash receipts as a percentage of total cash receipts. This methodology is an acceptable practice under generally accepted accounting principles. The City Treasurer's Office costs associated with the general government services allocation are not also associated with an SLA.

* * * * *

We were not engaged to, and did not, perform an audit, the objective of which would be the expression of an opinion on the subject matter. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the use of the City of San Diego, California and is not intended to be and should not be used by those who have not agreed to the procedures and taken responsibility for the sufficiency of the procedures for their purposes.

Maya Hoffman McCann P.C.

Irvine, California
August 2, 2006

CITY OF SAN DIEGO

Independent Accountant's Report on
Agreed-Upon Procedures
Applied to Water Fund Rate Increases



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City of San Diego

Independent Accountant's Report on Agreed-Upon Procedures
Applied to Wastewater Fund Rate Increases

On October 16, 2001, the San Diego City Council adopted resolution number R-295587 authorizing the increase of sewer service charges by 7.5% per year each year beginning March 1, 2002, for a period of four years through February 28, 2006. We have applied the procedures enumerated below to the City of San Diego's sewer service charge increases from March 1, 2002 through June 30, 2005. These procedures, which were agreed to by the City of San Diego were performed solely to assist the City in determining the uses of the revenue generated by the rate increases.

This engagement to apply agreed-upon procedures was performed in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of the specified users of the report. Consequently, we make no representations regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The procedures performed and the results of those procedures were as follows:

1. We obtained a summary of revenues and expenses for the fiscal years ended June 30, 2001 through 2005. We traced the revenues and expenses schedules to the City's accounting system to verify accuracy of the reports.

Results: The summary of revenue and expenses are presented in *Schedule 1*.

2. We obtained a calculation of revenues generated by the rate increase. We recalculated the rate increase schedule and traced the total revenues presented on the schedule to the billing system *Detailed Revenue by Rate* schedule. We also performed analytical procedures on the revenues generated by the rate increase by multiplying the amount of annual sewer revenues in *Schedule 1* by the compounded effect of the rate increases.

Results: The revenues generated by the rate increase were as follows for the years ended (in thousands):

June 30, 2002	\$ 4,517
June 30, 2003	17,540
June 30, 2004	34,983
June 30, 2005	<u>51,388</u>
Total	<u>\$108,428</u>

3. We reviewed the City Council resolution approving the sewer service charge increases for limitations on the use of the revenues.

Result: The City Council resolution specifies that a minimum of 2.5% of the annual sewer rate increase be used for sewer and pipe replacement and rehabilitation.

4. Generally, there is a relationship between sewer system uses and water consumption. Accordingly, we analytically compared the changes in operations and maintenance expenses to the changes in purchased water for the years ended June 30, 2002 through 2005.

Results: The increases and decreases in operations and maintenance expenses were materially consistent with the increases and decreases in purchased water for all years tested, except for fiscal years ended June 30, 2002 and 2003. For the year ended June 30, 2002, purchased water costs increased 3% while operations and maintenance costs increased 20%. As a result, additional procedures were performed, as set forth in procedure number five below.

5. We compared individual expenses accounts that make up "operations and maintenance" for the years ended June 30, 2002 and 2003 to identify significant fluctuations. We obtained explanations and supporting documentation to verify that the change between fiscal years did not represent a material misstatement.

Results: Significant fluctuations between the fiscal years ended June 30, 2002 and 2003 were as follows:

- Retirement expenses increased from \$3.5 million to almost \$5.5 million as a result of a 21% increase in salaries due to added staff and salary increases and an increase in the required retirement contribution rate from 6.68% of salaries to 10.94% of salaries.
- Engineering department charges related to Service Level Agreements increased from \$5.5 million to \$7.2 million due an increased effort to reduce sewer spills. City Council requested the Metropolitan Wastewater Department to replace 45 miles of sewer main per year starting in the fiscal year ending June 30, 2003. The previous average was only 15 miles per year. City Council approved a 30% increase in staffing for the Wastewater Collection Division to attain this goal.
- Chemical purchases increased from \$5.9 million to \$7.7 million primarily as a result of cost increases in the ferric chloride used to treat wastewater at the Point Loma Wastewater Treatment Plant.
- Equipment repairs and maintenance increased from \$2.8 million to \$3.8 million. Maintenance and minor repairs vary from year to year. In 2003, contractual welding services increased at Pump Station 2 due to increased efforts to prevent sewage spills.

- Fire insurance costs increased from almost \$1 million to \$2.2 million because of post 911 increases in insurance premiums, increased premiums in earthquake insurance, and the addition of new Metropolitan Wastewater Department facilities.

The explanations provided for significant fluctuations are reasonable.

6. We obtained accounting system reports to determine the amount of capital project expenditures in the years ended June 30, 2002 through 2005. We also obtained accounting system reports to determine the amount of capital project expenditures that were funded by bond proceeds. The difference between these reports represents the amount of capital project expenditures that were funded by sewer rates and other available wastewater fund resources.

Results: The following summarizes capital project activity for the years ended June 30, 2002 through 2005:

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>Total</u>
Capital projects:					
Internal costs	\$ 18,954,555	20,837,702	22,862,691	11,519,719	74,174,667
Payments to 3rd party vendors	<u>105,398,310</u>	<u>114,009,703</u>	<u>112,718,735</u>	<u>96,442,906</u>	<u>428,569,654</u>
Total capital projects	124,352,865	134,847,405	135,581,426	107,962,625	502,744,321
Less: Bond funded projects	<u>-</u>	<u>-</u>	<u>(121,735,724)</u>	<u>(30,483,308)</u>	<u>(152,219,032)</u>
Projects funded by water revenues	<u>\$ 124,352,865</u>	<u>134,847,405</u>	<u>13,845,702</u>	<u>77,479,317</u>	<u>350,525,289</u>

7. We compared the revenues generated by the rate increases to the increase in expenditure activity.

Results: Operating and Capital expenses incurred by the Wastewater Fund exceeded the revenues generated by the rate increase, as demonstrated in the following schedule. Additionally, at least 2.5% of the rate increase was spent on capital improvement projects, as required by the City Council Resolution.

Additional revenues created through rate increases	\$ 108,428
Increase in operating expenditures from base year	90,459
Increase in debt service expenditures from base year	8,633
Capital project expenditures	502,744
Less: Capital projects funded by bond proceeds	<u>(152,219)</u>
Capital projects not funded by bond proceeds	<u>350,525</u>
Total increase in expenditures from base year	<u>449,617</u>
Excess (deficiency) of revenues from rate increase	<u>\$ (341,189)</u>

* * * * *

We were not engaged to, and did not, perform an audit, the objective of which would be the expression of an opinion on the subject matter. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the use of the City of San Diego, California and is not intended to be and should not be used by those who have not agreed to the procedures and taken responsibility for the sufficiency of the procedures for their purposes.

Maya Hoffman Melann P.C.

Irvine, California
August 2, 2006

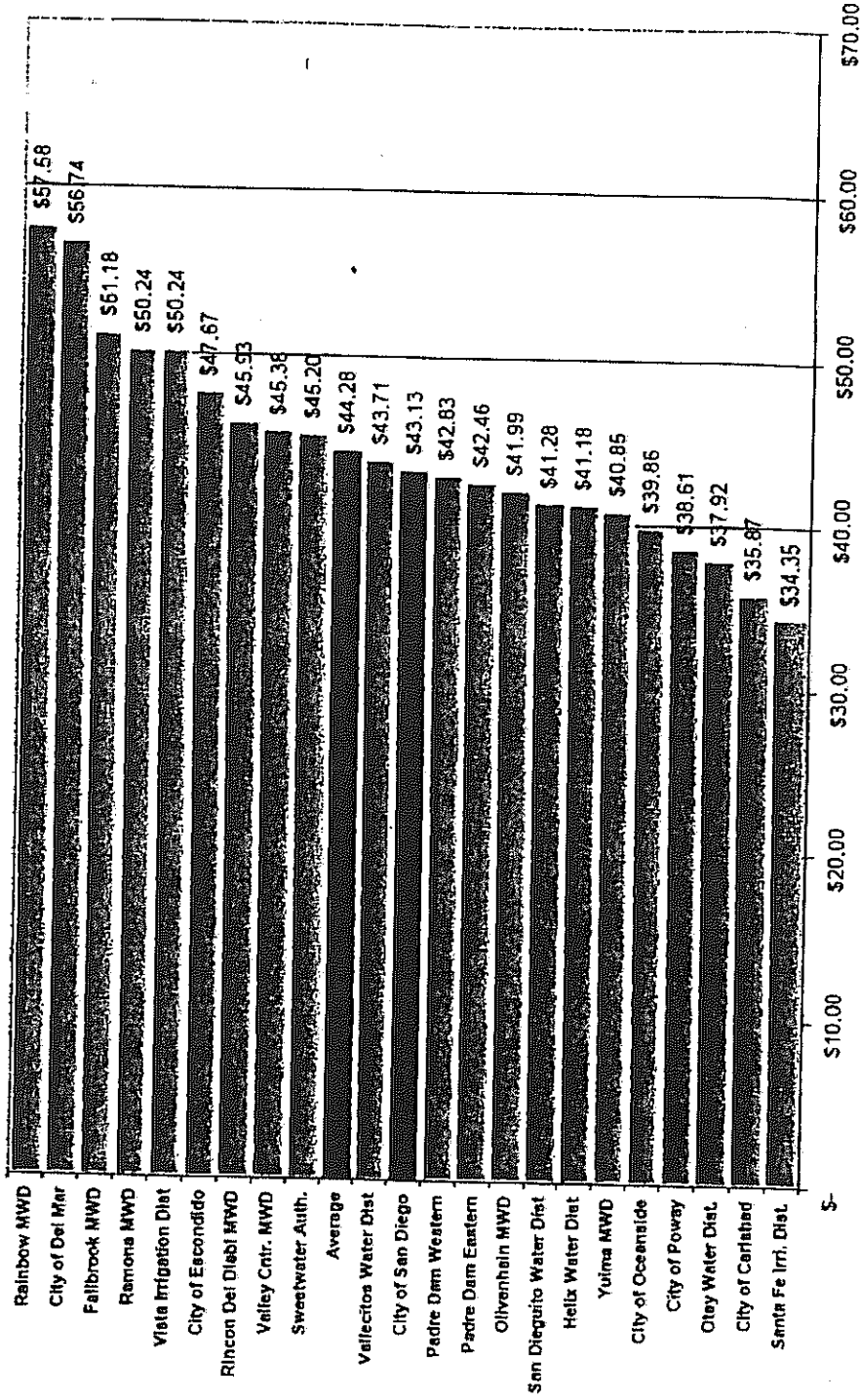
CITY OF SAN DIEGO
Wastewater Utility Fund - Analysis of Rate Increases
For the Years Ended June 30 (Unaudited)
(In Thousands)

	2001	2002	2003	2004	2005
Operating Revenues:					
Charges for services	\$ 212,386	247,130	235,895	226,897	232,344
Charges for services-rate increase	-	4,517	17,540	34,983	51,388
Other	2,045	5,085	3,511	4,621	2,833
Total operating revenues	214,431	256,732	256,946	266,501	286,565
Operating Expenses:					
Maintenance, operations and admin	168,027	170,461	197,391	195,572	199,143
Depreciation	37,776	51,328	59,559	59,409	72,835
Total operating expenses	205,803	221,789	256,950	254,981	271,978
Operating income	8,628	34,943	(4)	11,520	14,587
Nonoperating Revenues (Expenses):					
Earnings on investments	29,059	18,634	17,021	2,463	7,193
Grant assistance	199	4,431	1,173	687	3
Gain (loss) on sale of capital assets	(2,937)	(272)	(1,801)	(2,692)	(13,413)
Debt service interest payments	(54,605)	(55,013)	(54,531)	(52,997)	(54,917)
Other	5,258	841	5,390	2,888	7,403
Total nonoperating revenues (expenses)	(23,026)	(31,379)	(32,748)	(49,651)	(53,731)
Income (loss) before contributions and transfers	(14,398)	3,564	(32,752)	(38,131)	(39,144)
Capital contributions	-	100,614	58,034	62,794	21,017
Transfers in	134	-	130	-	-
Transfers out	(960)	(5,167)	(3,959)	(1,900)	(1,592)
Change in net assets	(15,224)	99,011	21,453	22,763	(19,719)
Net assets at beginning of year	720,510	705,286	1,710,039	1,731,492	1,754,255
Prior period adjustment	-	905,742	-	-	-
Net assets at end of year	\$ 705,286	1,710,039	1,731,492	1,754,255	1,734,536

CITY OF SAN DIEGO

Independent Accountant's Report on
Agreed-Upon Procedures
Applied to Use of Water Fund
Bond Proceeds

Monthly Bill Based on 14 HCF
as of July 1, 2008



LOCAL WATER RATE COMPARISON